```
 GET DATA /TYPE=XLSX
  /FILE='/Users/wiebold.theo/Documents/Effects of Exercise on Memory Recall Da
ta.xlsx'
  /SHEET=name '/Users/wiebold.theo/Documents/E'
  /CELLRANGE=full
  /READNAMES=on
  /ASSUMEDSTRWIDTH=32767.
EXECUTE.
DATASET NAME DataSet1 WINDOW=FRONT.

SAVE OUTFILE='/Users/wiebold.theo/Documents/Effects of Exercise on Memory Reca
ll Data.sav'
  /COMPRESSED.
COMPUTE Spell_Error_Diff=A_Spelling_Error - B_Spelling_Error.
EXECUTE.
COMPUTE Words_Diff=A_List_Words - B_List_Words.
EXECUTE.
COMPUTE Words_Diff=B_List_Words - A_List_Words.
EXECUTE.
COMPUTE Spell_Error_Diff=B_Spelling_Error - A_Spelling_Error.
EXECUTE.
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/wiebold.theo/Documents/Effects of Exercise on Memory Reca
ll Data.sav'
  /COMPRESSED.
FREQUENCIES VARIABLES=Exercsie_IntensityFirst_HR Accuracy_First_HRSecond_HR
Accuracy_Second_HR
    A_List_Words False_Pos_A_ListA_Spelling_ErrorMaxHR Third_HR Accuracy_Thi
rd_HR Fourth_HR
    Accuracy_Fourth_HRB_List_Words False_Pos_B_ListB_Spelling_ErrorWords_Di
ff Spell_Error_Diff
    Off_Tempo Confidence_DataPulseCheck_DifficultyReading_DifficultyInstruc
tion_Clarity
    Study_While_ExerciseGender Age
  /STATISTICS=STDDEV MEAN
  /HISTOGRAM
  /ORDER=ANALYSIS.
```

T-Test

Notes

Output Created		20-APR-2016 14:16:...
Comments		
Input	Data	/Users/wiebold.theo/Documents/Effects of Exercise on Memory Recall Data.sav
	Active Dataset	DataSet1
	Filter	Off_Tempo < 3 (FILTER)
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	22
Missing Value Handling	Definition of Missing	User defined missing values are treated as missing.
	Cases Used	Statistics for each analysis are based on the cases with no missing or out-of-range data for any variable in the analysis.
Syntax		T-TEST GROUPS=Exercsie_Intensity(1 2) /MISSING=ANALYSIS /VARIABLES=Words_Diff /CRITERIA=CI(.95).
Resources	Processor Time	00:00:00.01
	Elapsed Time	00:00:00.00

Group Statistics

	Exercsie_Intensity	N	Mean	Std. Deviation	Std. Error Mean
Words_Diff	Low-Intensity	11	.6364	1.68954	.50942
	High-Intensity	11	-.2727	2.68667	.81006

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Words_Diff	Equal variances assumed	4.714	.042	.950	20	.353	.90909	.95692	-1.08702	2.90520
	Equal variances not assumed			.950	16.840	.356	.90909	.95692	-1.11131	2.92949

```
T-TEST GROUPS=Exercsie_Intensity(1 2)
 /MISSING=ANALYSIS
 /VARIABLES=Spell_Error_Diff
```

```
/CRITERIA=CI(.95).
```

Correlations

Notes

Output Created		25-APR-2016 13:05:...
Comments		
Input	Data	/Users/wiebold.theo/Documents/Effects of Exercise on Memory Recall Data.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	25
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each pair of variables are based on all the cases with valid data for that pair.
Syntax		CORRELATIONS /VARIABLES=Third_HR Words_Diff Exercsie_Intensity /PRINT=TWOTAIL NOSIG /MISSING=PAIRWISE.
Resources	Processor Time	00:00:00.01
	Elapsed Time	00:00:00.00

Correlations

		Third_HR	Words_Diff	Exercsie_Intensity
Third_HR	Pearson Correlation	1	-.226	.537**
	Sig. (2-tailed)		.278	.006
	N	25	25	25
Words_Diff	Pearson Correlation	-.226	1	-.229
	Sig. (2-tailed)	.278		.271
	N	25	25	25
Exercsie_Intensity	Pearson Correlation	.537**	-.229	1
	Sig. (2-tailed)	.006	.271	
	N	25	25	25

**. Correlation is significant at the 0.01 level (2-tailed).

```
CORRELATIONS
  /VARIABLES=Third_HR Words_Diff Spell_Error_Diff
  /PRINT=TWOTAIL NOSIG
  /MISSING=PAIRWISE.
```

Frequencies

Notes

Output Created		25-APR-2016 13:09:...
Comments		
Input	Data	/Users/wiebold.theo/Documents/Effects of Exercise on Memory Recall Data.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	Exercsie_Intensity
	N of Rows in Working Data File	25
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data.
Syntax		FREQUENCIES VARIABLES=Third_HR /STATISTICS=STDDEV RANGE MEAN MEDIAN /HISTOGRAM /ORDER=ANALYSIS.
Resources	Processor Time	00:00:00.33
	Elapsed Time	00:00:01.00

Exercsie_Intensity = Low-Intensity

Statistics[a]

Third_HR

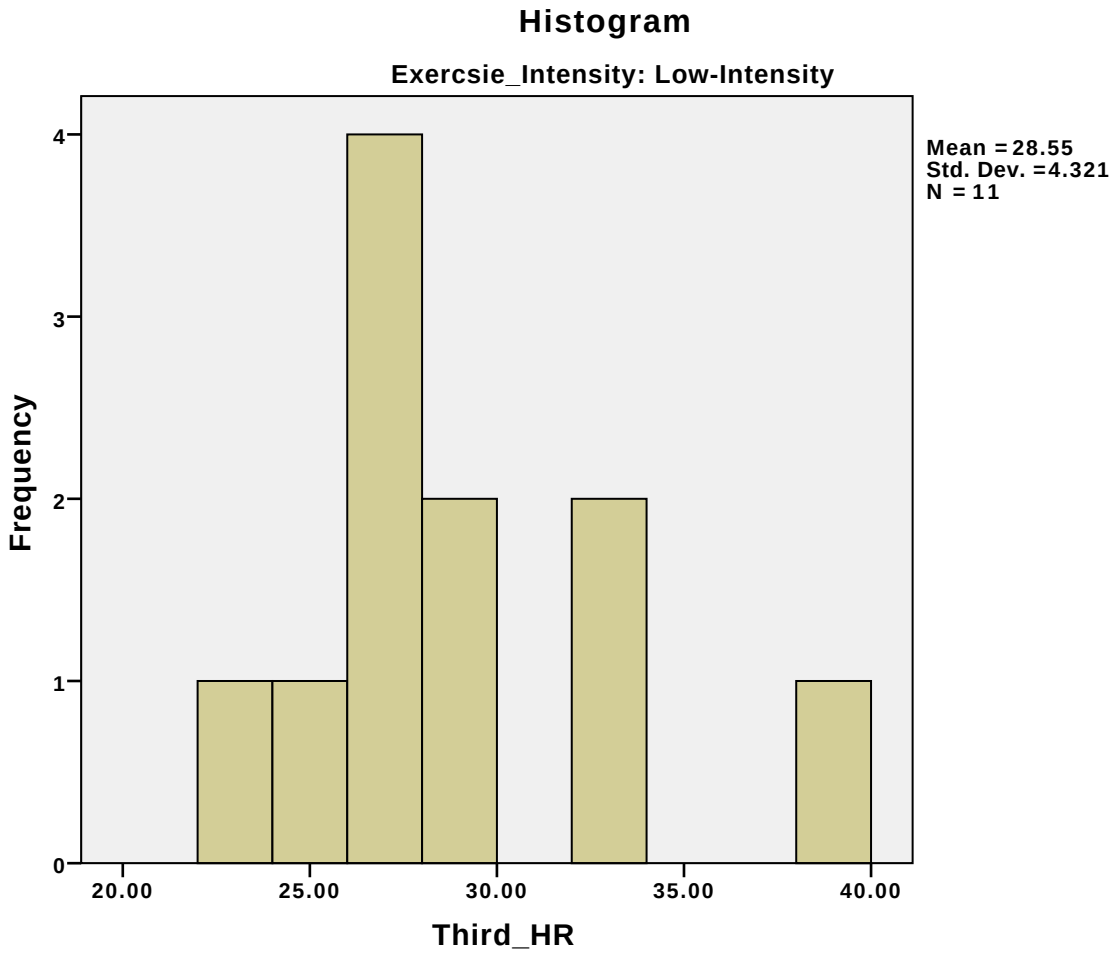
N	Valid	11
	Missing	0
Mean		28.5455
Median		27.0000
Std. Deviation		4.32120
Range		15.00

a. Exercsie_Intensity = Low-Intensity

Third_HR[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	23.00	1	9.1	9.1	9.1
	24.00	1	9.1	9.1	18.2
	26.00	1	9.1	9.1	27.3
	27.00	3	27.3	27.3	54.5
	28.00	1	9.1	9.1	63.6
	29.00	1	9.1	9.1	72.7
	32.00	1	9.1	9.1	81.8
	33.00	1	9.1	9.1	90.9
	38.00	1	9.1	9.1	100.0
	Total	11	100.0	100.0	

a. Exercsie_Intensity = Low-Intensity



Exercsie_Intensity = High-Intensity

Statistics[a]

Third_HR

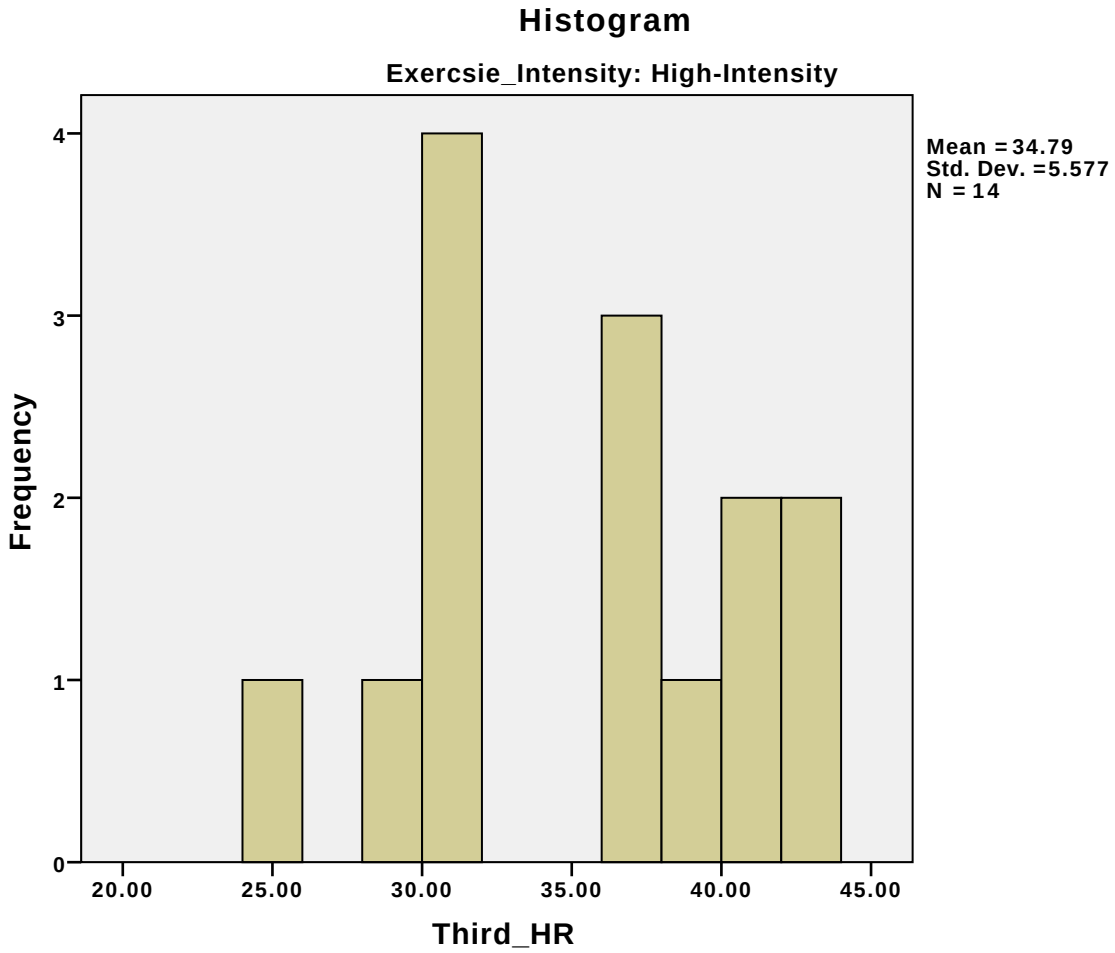
N	Valid	14
	Missing	0
Mean		34.7857
Median		36.0000
Std. Deviation		5.57713
Range		17.00

a. Exercsie_Intensity = High-Intensity

Third_HR[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	25.00	1	7.1	7.1	7.1
	28.00	1	7.1	7.1	14.3
	30.00	2	14.3	14.3	28.6
	31.00	2	14.3	14.3	42.9
	36.00	2	14.3	14.3	57.1
	37.00	1	7.1	7.1	64.3
	38.00	1	7.1	7.1	71.4
	40.00	1	7.1	7.1	78.6
	41.00	1	7.1	7.1	85.7
	42.00	2	14.3	14.3	100.0
	Total	14	100.0	100.0	

a. Exercsie_Intensity = High-Intensity




```
 SPLIT FILE OFF.
RECODE Third_HR (22 thru 28=1) (34 thru 46=2) (ELSE=SYSMIS) INTO Third_HR_Grou
ps.
EXECUTE.
T-TEST GROUPS=Third_HR_Groups(1 2)
  /MISSING=ANALYSIS
  /VARIABLES=Words_Diff
  /CRITERIA=CI(.95).
```

T-Test

Notes

Output Created		25-APR-2016 13:18:...
Comments		
Input	Data	/Users/wiebold.theo/Documents/Effects of Exercise on Memory Recall Data.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	25
Missing Value Handling	Definition of Missing	User defined missing values are treated as missing.
	Cases Used	Statistics for each analysis are based on the cases with no missing or out-of-range data for any variable in the analysis.
Syntax		T-TEST GROUPS=Third_HR_Groups(1 2) /MISSING=ANALYSIS /VARIABLES=Words_Diff /CRITERIA=CI(.95).
Resources	Processor Time	00:00:00.01
	Elapsed Time	00:00:00.00

Group Statistics

	Third_HR_Groups	N	Mean	Std. Deviation	Std. Error Mean
Words_Diff	1.00	9	-.3333	2.44949	.81650
	2.00	9	-.5556	2.40370	.80123

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Words_Diff	Equal variances assumed	.048	.830	.194	16	.848	.22222	1.14396	-2.20286	2.64731
	Equal variances not assumed			.194	15.994	.848	.22222	1.14396	-2.20293	2.64738

```
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='/Users/wiebold.theo/Documents/Effects of Exercise on Memory Reca
```

```
ll Data.sav'
  /COMPRESSED.

SAVE OUTFILE='/Users/wiebold.theo/Documents/Effects of Exercise on Memory Reca
ll Data.sav'
  /COMPRESSED.



 GET
  FILE='/Users/wiebold.theo/Documents/Effects of Exercise on Memory Recall Dat
a.sav'.
DATASET NAME DataSet1 WINDOW=FRONT.
FREQUENCIES VARIABLES=Exercsie_IntensityFirst_HR Accuracy_First_HRSecond_HR
Accuracy_Second_HR
    A_List_Words False_Pos_A_ListA_Spelling_ErrorMaxHR Third_HR Accuracy_Thi
rd_HR Fourth_HR
    Accuracy_Fourth_HRB_List_Words False_Pos_B_ListB_Spelling_ErrorWords_Di
ff Spell_Error_Diff
    Off_Tempo Confidence_DataPulseCheck_DifficultyReading_DifficultyInstruc
tion_Clarity
    Study_While_ExerciseGender Age Third_HR_Groups
  /STATISTICS=STDDEV MEAN
  /HISTOGRAM
  /ORDER=ANALYSIS.
```

Frequencies

Notes

Output Created		25-APR-2016 14:20:...
Comments		
Input	Data	/Users/wiebold.theo/Documents/Effects of Exercise on Memory Recall Data.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	25
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data.
Syntax		FREQUENCIES VARIABLES=Exercsie_Intensity First_HR Accuracy_First_HR Second_HR Accuracy_Second_HR A_List_Words False_Pos_A_List A_Spelling_Error MaxHR Third_HR Accuracy_Third_HR Fourth_HR Accuracy_Fourth_HR B_List_Words False_Pos_B_List B_Spelling_Error Words_Diff Spell_Error_Diff Off_Tempo Confidence_Data PulseCheck_Difficulty Reading_Difficulty Instruction_Clarity Study_While_Exercise Gender Age Third_HR_Groups /STATISTICS=STDDEV MEAN /HISTOGRAM /ORDER=ANALYSIS.
Resources	Processor Time	00:00:04.92
	Elapsed Time	00:00:05.00

[DataSet1] /Users/wiebold.theo/Documents/Effects of Exercise on Memory Recall Data.sav

Statistics

		Exercsie_Intensity	First_HR	Accuracy_First_HR	Second_HR	Accuracy_Second_HR	A_List_Words	False_Pos_A_List	A_Spelling_Error	MaxHR	Third_HR	Accuracy_Third_HR	Fourth_HR	Accuracy_Fourth_HR	B_List_Words	False_Pos_B_List	B_Spelling_Error	Words_Diff	Spell_Error_Diff	Off_Tempo	Confidence_Data	PulseCheck_Difficulty	Reading_Difficulty	Instruction_Clarity	Study_While_Exercise	Gender	Age	Third_HR_Groups
N	Valid	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	18
	Missing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Mean		1.5600	18.2000	2.6800	21.0800	2.7600	5.3600	.9600	.6000	202.8800	32.0400	2.5600	22.7600	2.5600	5.4400	1.2000	.8800	.0800	.2800	1.6000	2.9200	4.6400	3.6400	5.5600	1.2000	1.4400	19.7600	1.5000
Std. Deviation		.50662	4.16333	.47610	3.92556	.43589	2.21510	1.05987	.81650	3.50381	5.88416	.50662	5.18234	.58310	2.10317	1.29099	.88129	2.19697	1.10000	.70711	.81240	1.31909	1.15036	.76811	.57735	.50662	1.16476	.51450

Frequency Table

Exercsie_Intensity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low-Intensity	11	44.0	44.0	44.0
	High-Intensity	14	56.0	56.0	100.0
	Total	25	100.0	100.0	

First_HR

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	11.00	1	4.0	4.0	4.0
	12.00	1	4.0	4.0	8.0
	13.00	1	4.0	4.0	12.0
	14.00	1	4.0	4.0	16.0
	15.00	3	12.0	12.0	28.0
	16.00	2	8.0	8.0	36.0
	17.00	2	8.0	8.0	44.0
	18.00	4	16.0	16.0	60.0
	19.00	2	8.0	8.0	68.0
	20.00	2	8.0	8.0	76.0
	21.00	1	4.0	4.0	80.0
	23.00	2	8.0	8.0	88.0
	24.00	1	4.0	4.0	92.0
	25.00	1	4.0	4.0	96.0
	28.00	1	4.0	4.0	100.0
	Total	25	100.0	100.0	

Accuracy_First_HR

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	somewhat	8	32.0	32.0	32.0
	very	17	68.0	68.0	100.0
	Total	25	100.0	100.0	

Second_HR

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	14.00	1	4.0	4.0	4.0
	15.00	1	4.0	4.0	8.0
	17.00	3	12.0	12.0	20.0
	18.00	2	8.0	8.0	28.0
	19.00	2	8.0	8.0	36.0
	20.00	3	12.0	12.0	48.0
	21.00	3	12.0	12.0	60.0
	22.00	1	4.0	4.0	64.0
	23.00	2	8.0	8.0	72.0
	24.00	2	8.0	8.0	80.0
	25.00	2	8.0	8.0	88.0
	27.00	1	4.0	4.0	92.0
	28.00	1	4.0	4.0	96.0
	29.00	1	4.0	4.0	100.0
	Total	25	100.0	100.0	

Accuracy_Second_HR

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	somewhat	6	24.0	24.0	24.0
	very	19	76.0	76.0	100.0
	Total	25	100.0	100.0	

A_List_Words

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	1	4.0	4.0	4.0
	3.00	3	12.0	12.0	16.0
	4.00	5	20.0	20.0	36.0
	5.00	7	28.0	28.0	64.0
	6.00	4	16.0	16.0	80.0
	7.00	2	8.0	8.0	88.0
	8.00	1	4.0	4.0	92.0
	10.00	1	4.0	4.0	96.0
	12.00	1	4.0	4.0	100.0
	Total	25	100.0	100.0	

False_Pos_A_List

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	10	40.0	40.0	40.0
	1.00	9	36.0	36.0	76.0
	2.00	4	16.0	16.0	92.0
	3.00	1	4.0	4.0	96.0
	4.00	1	4.0	4.0	100.0
	Total	25	100.0	100.0	

A_Spelling_Error

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	14	56.0	56.0	56.0
	1.00	8	32.0	32.0	88.0
	2.00	2	8.0	8.0	96.0
	3.00	1	4.0	4.0	100.0
	Total	25	100.0	100.0	

MaxHR

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	197.00	1	4.0	4.0	4.0
	198.00	1	4.0	4.0	8.0
	199.00	1	4.0	4.0	12.0
	200.00	5	20.0	20.0	32.0
	201.00	6	24.0	24.0	56.0
	204.00	1	4.0	4.0	60.0
	206.00	3	12.0	12.0	72.0
	207.00	6	24.0	24.0	96.0
	208.00	1	4.0	4.0	100.0
	Total	25	100.0	100.0	

Third_HR

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	23.00	1	4.0	4.0	4.0
	24.00	1	4.0	4.0	8.0
	25.00	1	4.0	4.0	12.0
	26.00	1	4.0	4.0	16.0
	27.00	3	12.0	12.0	28.0
	28.00	2	8.0	8.0	36.0
	29.00	1	4.0	4.0	40.0
	30.00	2	8.0	8.0	48.0
	31.00	2	8.0	8.0	56.0
	32.00	1	4.0	4.0	60.0
	33.00	1	4.0	4.0	64.0
	36.00	2	8.0	8.0	72.0
	37.00	1	4.0	4.0	76.0
	38.00	2	8.0	8.0	84.0
	40.00	1	4.0	4.0	88.0
	41.00	1	4.0	4.0	92.0
	42.00	2	8.0	8.0	100.0
	Total	25	100.0	100.0	

Accuracy_Third_HR

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	somewhat	11	44.0	44.0	44.0
	very	14	56.0	56.0	100.0
	Total	25	100.0	100.0	

Fourth_HR

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	15.00	1	4.0	4.0	4.0
	17.00	3	12.0	12.0	16.0
	18.00	2	8.0	8.0	24.0
	19.00	2	8.0	8.0	32.0
	20.00	2	8.0	8.0	40.0
	22.00	4	16.0	16.0	56.0
	23.00	2	8.0	8.0	64.0
	24.00	3	12.0	12.0	76.0
	27.00	1	4.0	4.0	80.0
	28.00	1	4.0	4.0	84.0
	31.00	1	4.0	4.0	88.0
	32.00	2	8.0	8.0	96.0
	33.00	1	4.0	4.0	100.0
	Total	25	100.0	100.0	

Accuracy_Fourth_HR

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not at all	1	4.0	4.0	4.0
	somewhat	9	36.0	36.0	40.0
	very	15	60.0	60.0	100.0
	Total	25	100.0	100.0	

B_List_Words

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	3	12.0	12.0	12.0
	3.00	2	8.0	8.0	20.0
	4.00	3	12.0	12.0	32.0
	5.00	4	16.0	16.0	48.0
	6.00	6	24.0	24.0	72.0
	7.00	2	8.0	8.0	80.0
	8.00	3	12.0	12.0	92.0
	9.00	2	8.0	8.0	100.0
	Total	25	100.0	100.0	

False_Pos_B_List

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	7	28.0	28.0	28.0
	1.00	13	52.0	52.0	80.0
	2.00	1	4.0	4.0	84.0
	3.00	2	8.0	8.0	92.0
	4.00	1	4.0	4.0	96.0
	5.00	1	4.0	4.0	100.0
	Total	25	100.0	100.0	

B_Spelling_Error

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	9	36.0	36.0	36.0
	1.00	12	48.0	48.0	84.0
	2.00	2	8.0	8.0	92.0
	3.00	2	8.0	8.0	100.0
	Total	25	100.0	100.0	

Words_Diff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-5.00	1	4.0	4.0	4.0
	-3.00	3	12.0	12.0	16.0
	-2.00	3	12.0	12.0	28.0
	-1.00	2	8.0	8.0	36.0
	.00	1	4.0	4.0	40.0
	1.00	9	36.0	36.0	76.0
	2.00	4	16.0	16.0	92.0
	3.00	1	4.0	4.0	96.0
	4.00	1	4.0	4.0	100.0
	Total	25	100.0	100.0	

Spell_Error_Diff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-2.00	1	4.0	4.0	4.0
	-1.00	4	16.0	16.0	20.0
	.00	11	44.0	44.0	64.0
	1.00	6	24.0	24.0	88.0
	2.00	2	8.0	8.0	96.0
	3.00	1	4.0	4.0	100.0
	Total	25	100.0	100.0	

Off_Tempo

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 times	13	52.0	52.0	52.0
	1-2 times	9	36.0	36.0	88.0
	3-4 times	3	12.0	12.0	100.0
	Total	25	100.0	100.0	

Confidence_Data

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not confident	1	4.0	4.0	4.0
	Somewhat confident	6	24.0	24.0	28.0
	Confident	12	48.0	48.0	76.0
	Very confident	6	24.0	24.0	100.0
	Total	25	100.0	100.0	

PulseCheck_Difficulty

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very difficult	1	4.0	4.0	4.0
	Difficult	1	4.0	4.0	8.0
	Somewhat Difficult	2	8.0	8.0	16.0
	Somewhat Easy	5	20.0	20.0	36.0
	Easy	9	36.0	36.0	72.0
	Very Easy	7	28.0	28.0	100.0
	Total	25	100.0	100.0	

Reading_Difficulty

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Difficult	4	16.0	16.0	16.0
	Somewhat Difficult	8	32.0	32.0	48.0
	Somewhat Easy	8	32.0	32.0	80.0
	Easy	3	12.0	12.0	92.0
	Very Easy	2	8.0	8.0	100.0
	Total	25	100.0	100.0	

Instruction_Clarity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat unclear	1	4.0	4.0	4.0
	Somewhat clear	1	4.0	4.0	8.0
	Clear	6	24.0	24.0	32.0
	Very clear	17	68.0	68.0	100.0
	Total	25	100.0	100.0	

Study_While_Exercise

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 times	22	88.0	88.0	88.0
	1-2 times	1	4.0	4.0	92.0
	3-4 times	2	8.0	8.0	100.0
	Total	25	100.0	100.0	

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	14	56.0	56.0	56.0
	Female	11	44.0	44.0	100.0
	Total	25	100.0	100.0	

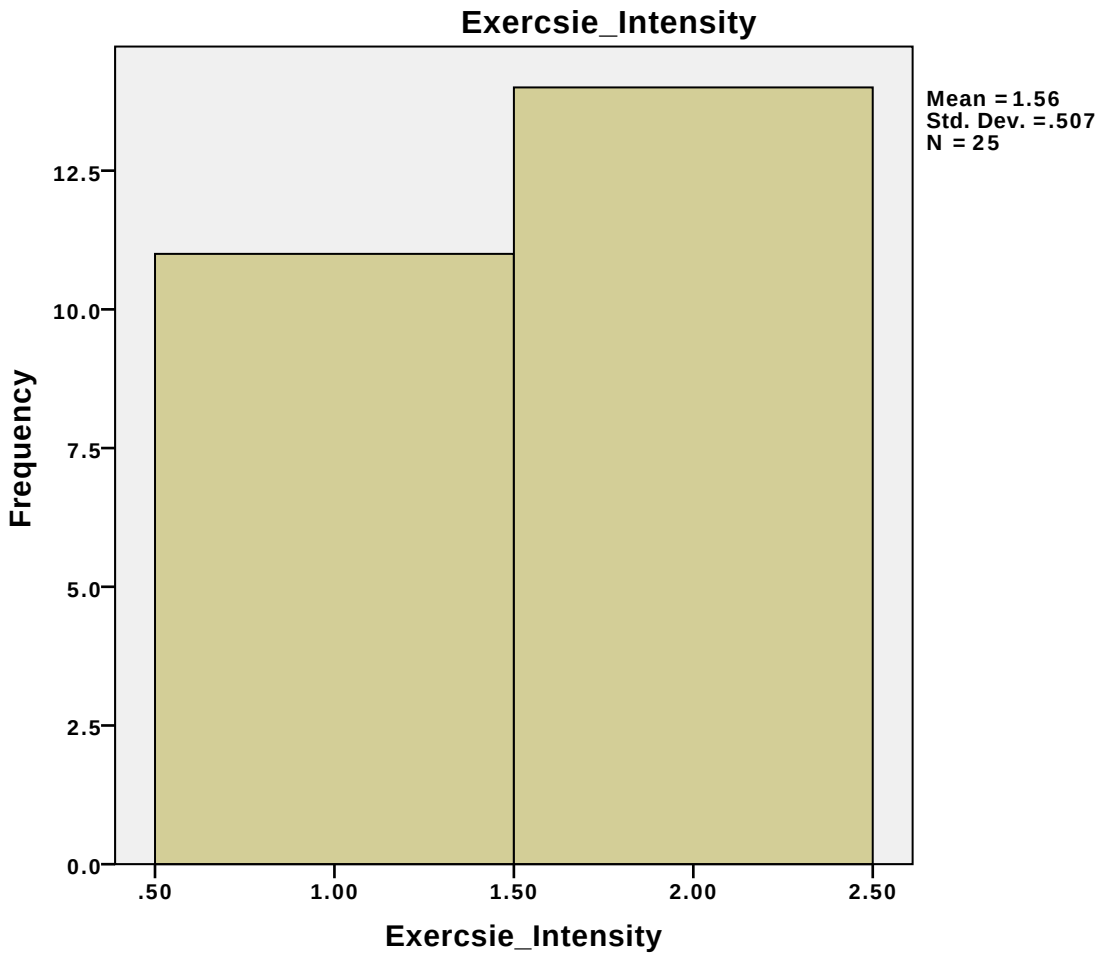
Age

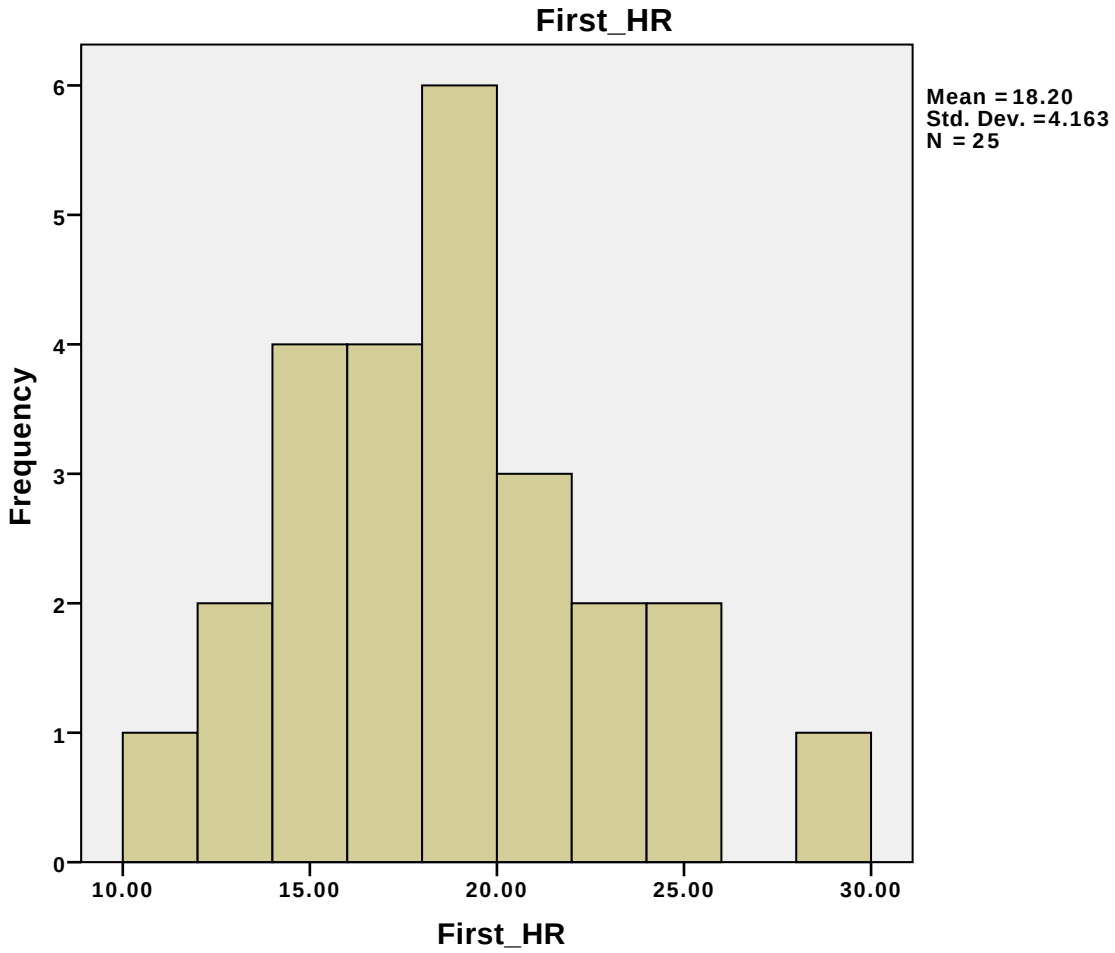
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18.00	1	4.0	4.0	4.0
	19.00	12	48.0	48.0	52.0
	20.00	8	32.0	32.0	84.0
	21.00	1	4.0	4.0	88.0
	22.00	2	8.0	8.0	96.0
	23.00	1	4.0	4.0	100.0
	Total	25	100.0	100.0	

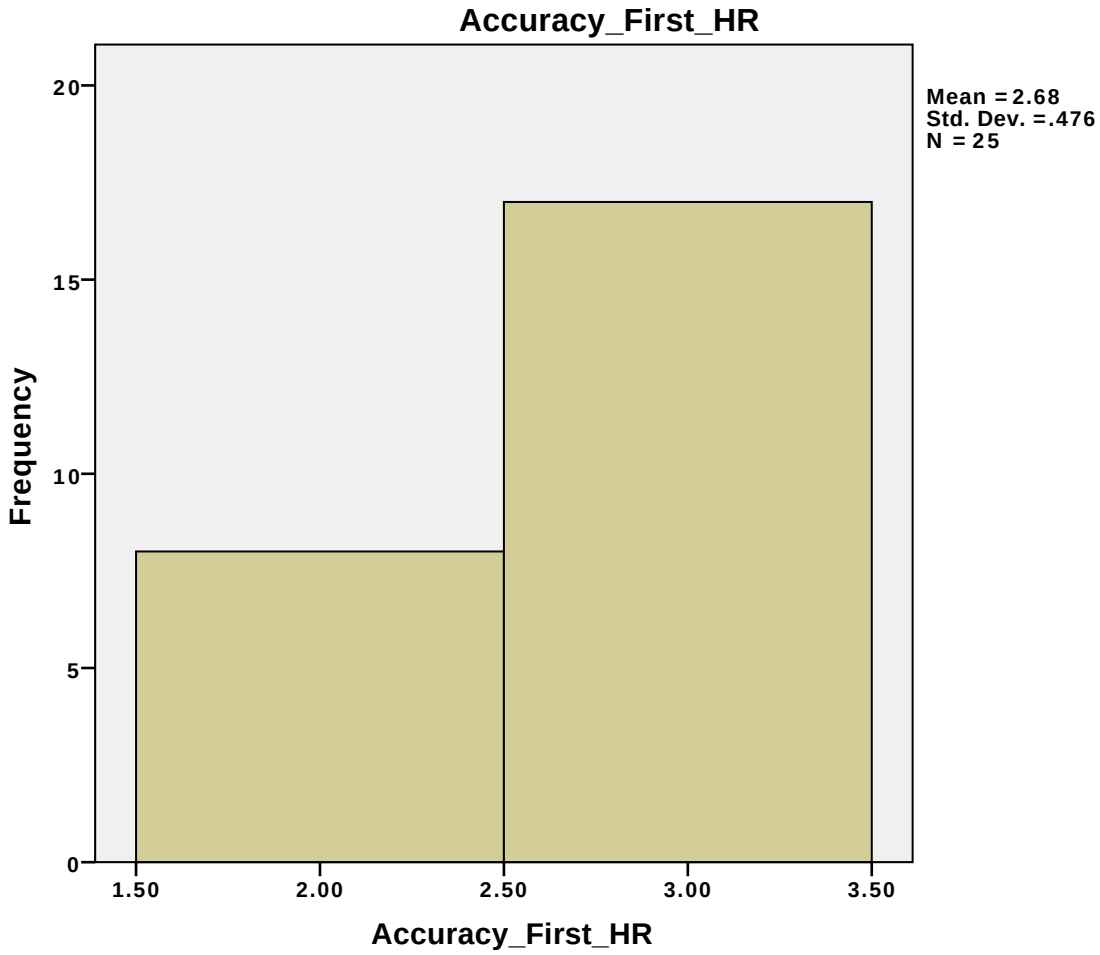
Third_HR_Groups

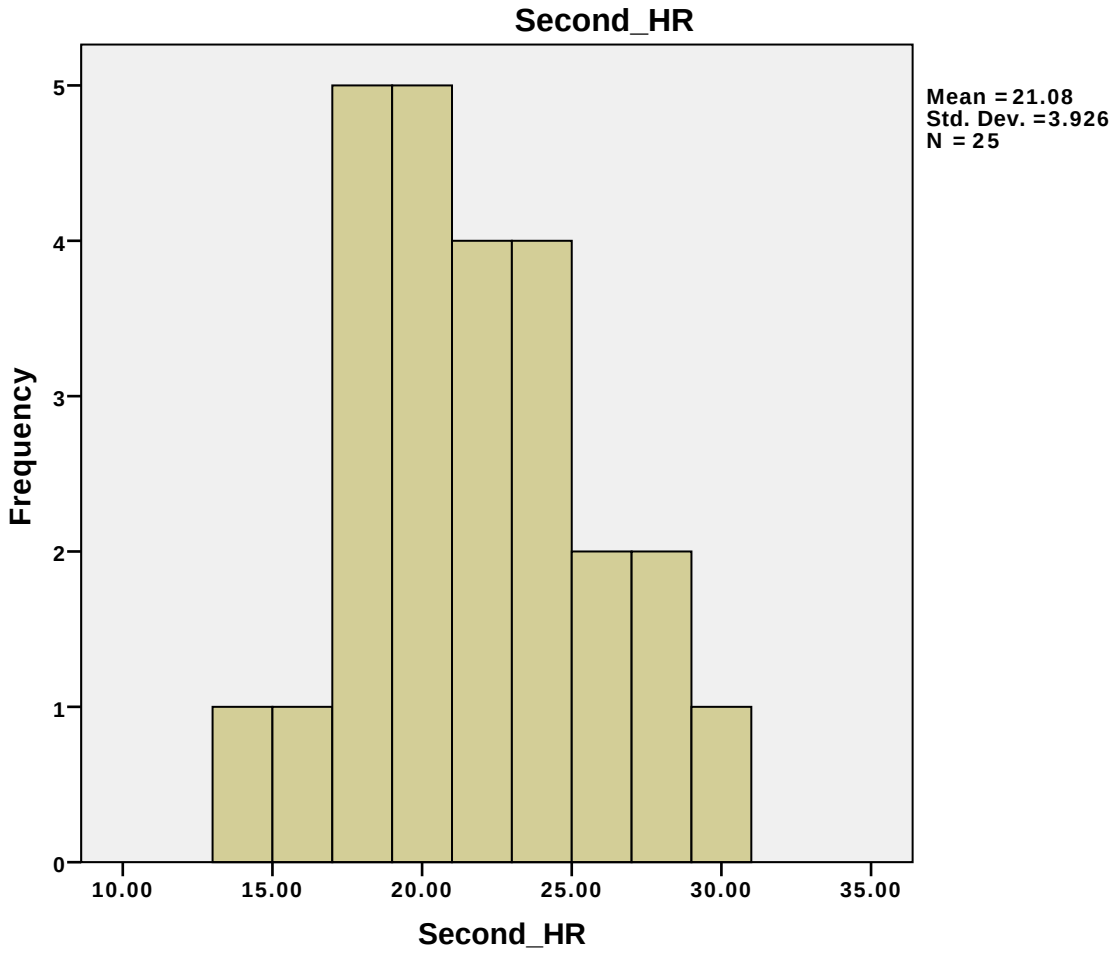
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	9	36.0	50.0	50.0
	2.00	9	36.0	50.0	100.0
	Total	18	72.0	100.0	
Missing	System	7	28.0		
Total		25	100.0		

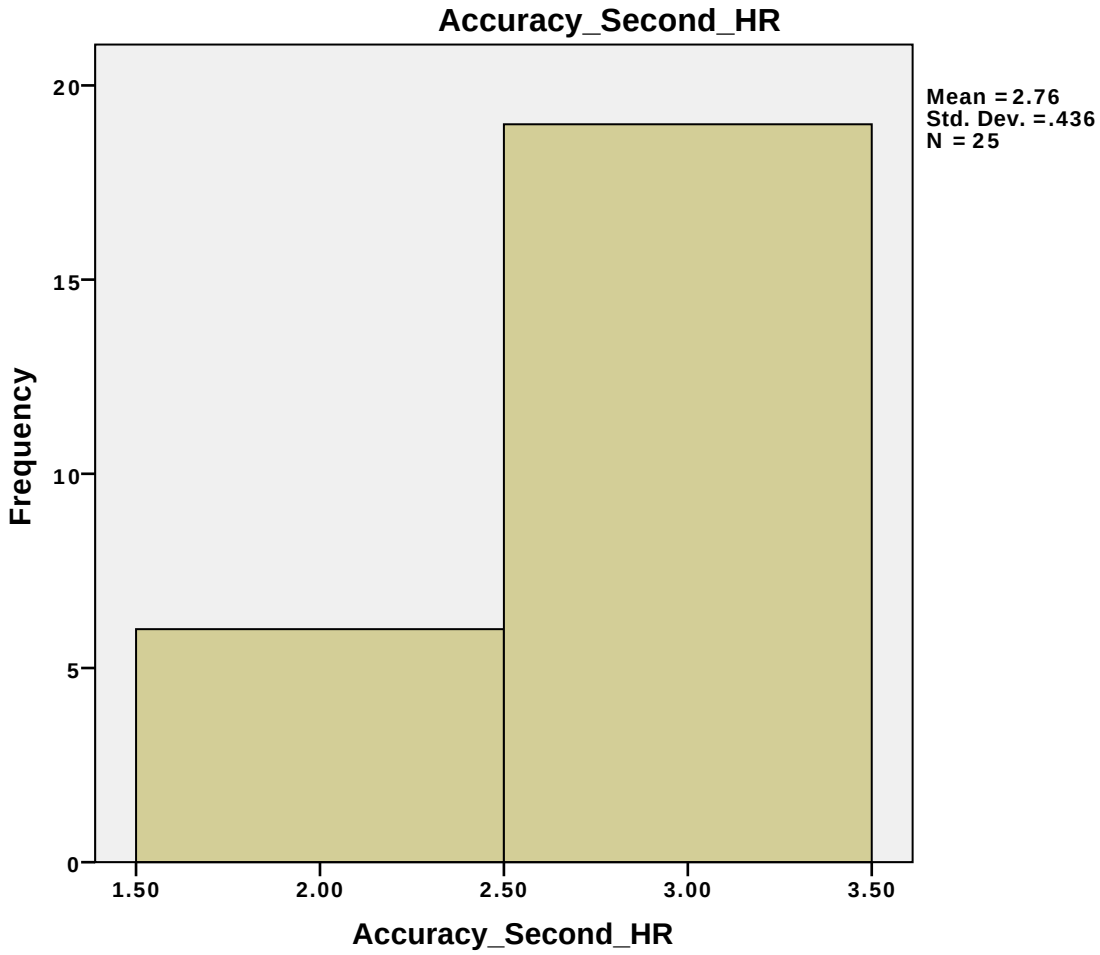
Histogram

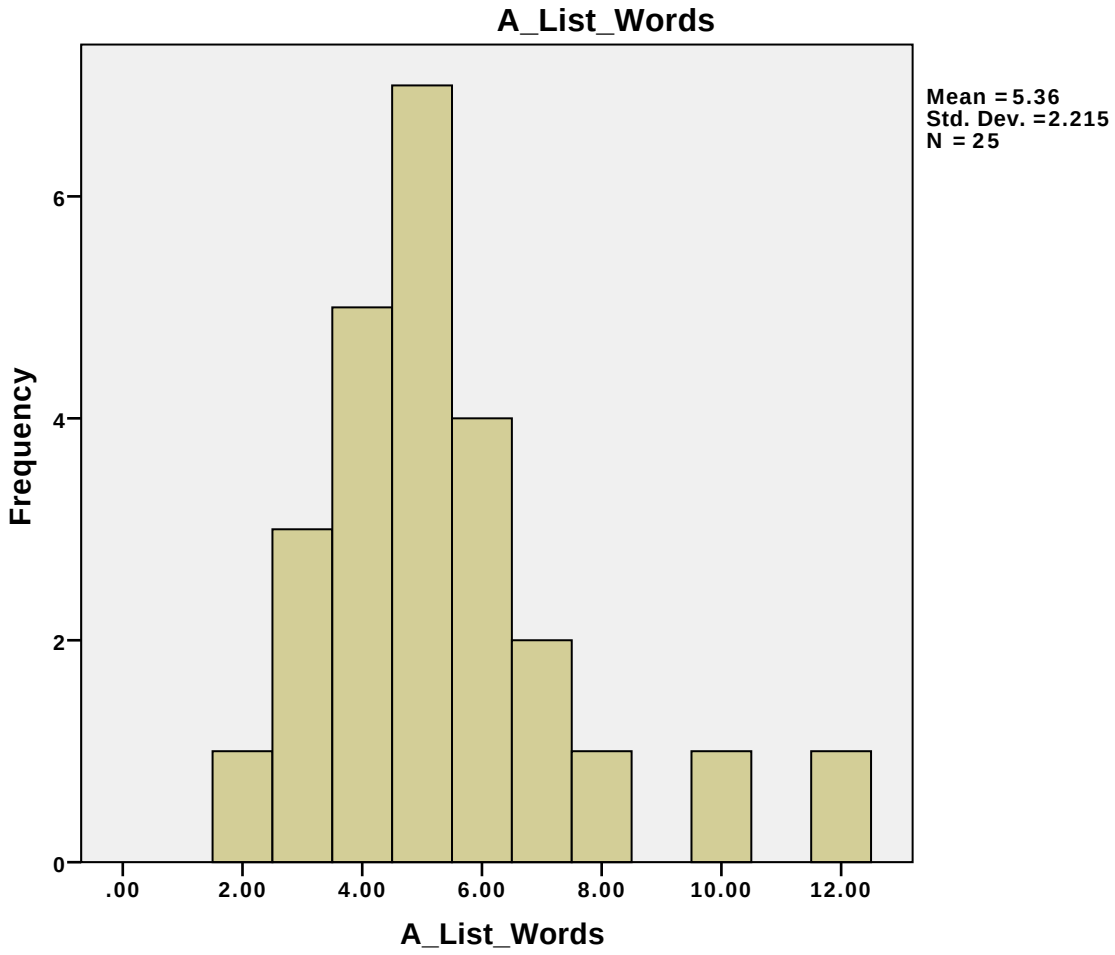

Exercsie_Intensity
Mean = 1.56
Std. Dev. =.507
N = 25
Frequency
12.5
10.0
7.5
5.0
2.5
0.0
.50
1.00
1.50
2.00
2.50
Exercsie_Intensity

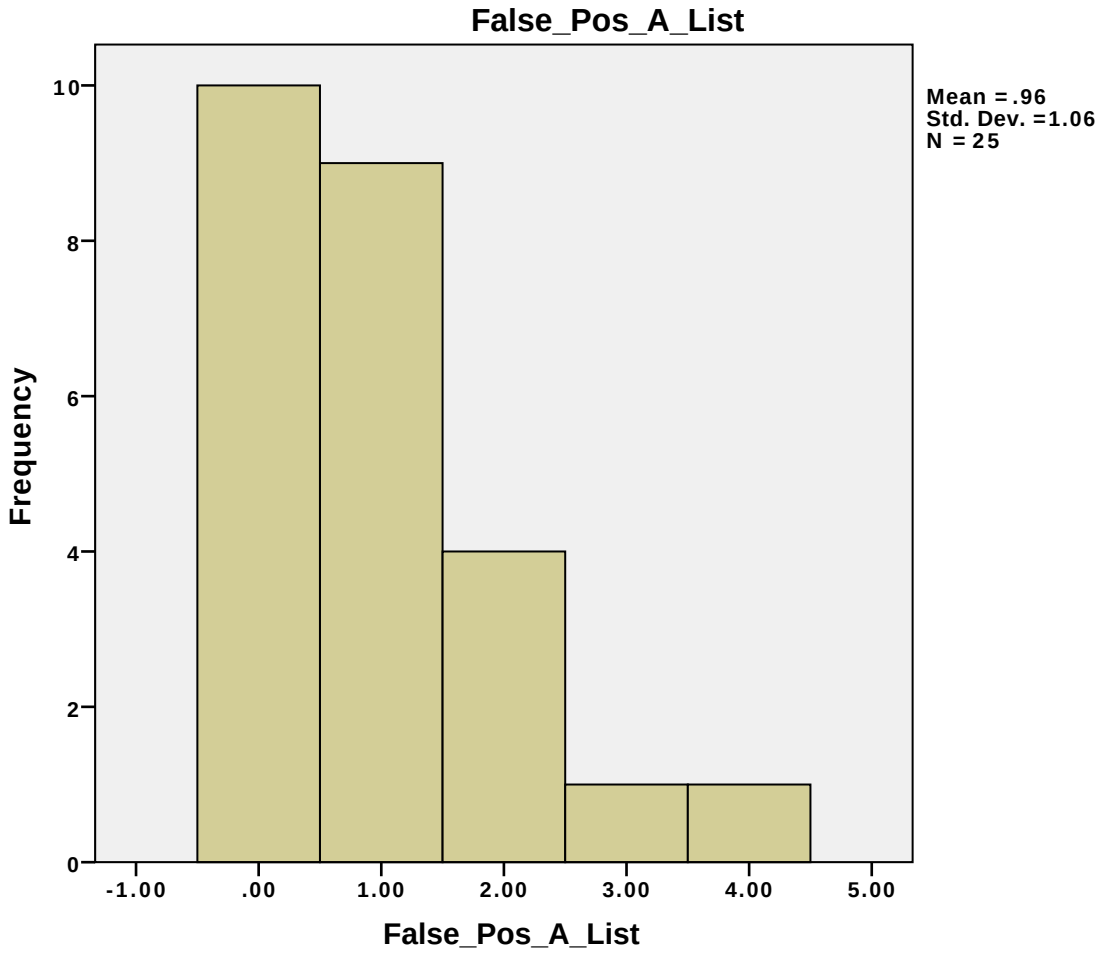

First_HR
Mean = 18.20
Std. Dev. =4.163
N = 25
Frequency
0
1
2
3
4
5
6
10.00
15.00
20.00
25.00
30.00
First_HR

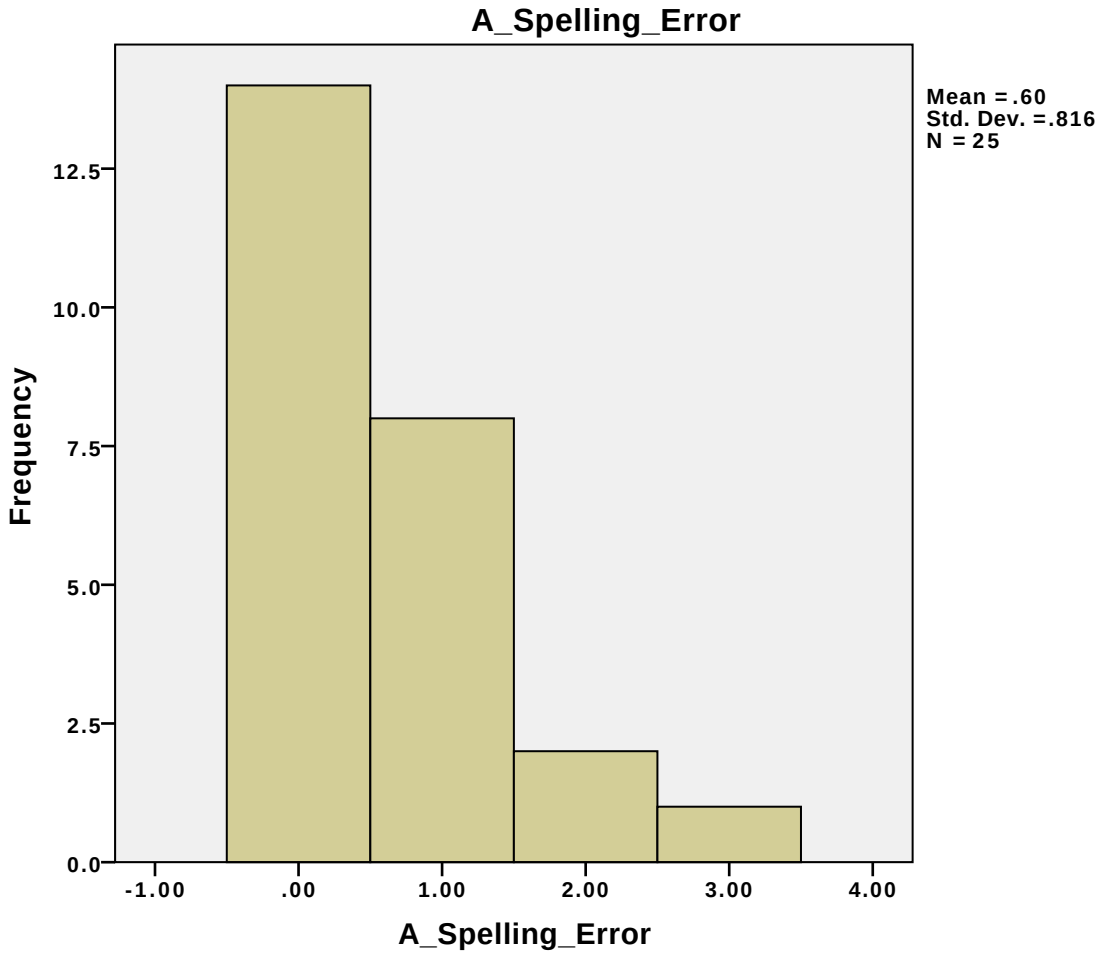

Accuracy_First_HR
Mean = 2.68
Std. Dev. =.476
N = 25
Frequency
20
15
10
5
0
1.50
2.00
2.50
3.00
3.50
Accuracy_First_HR

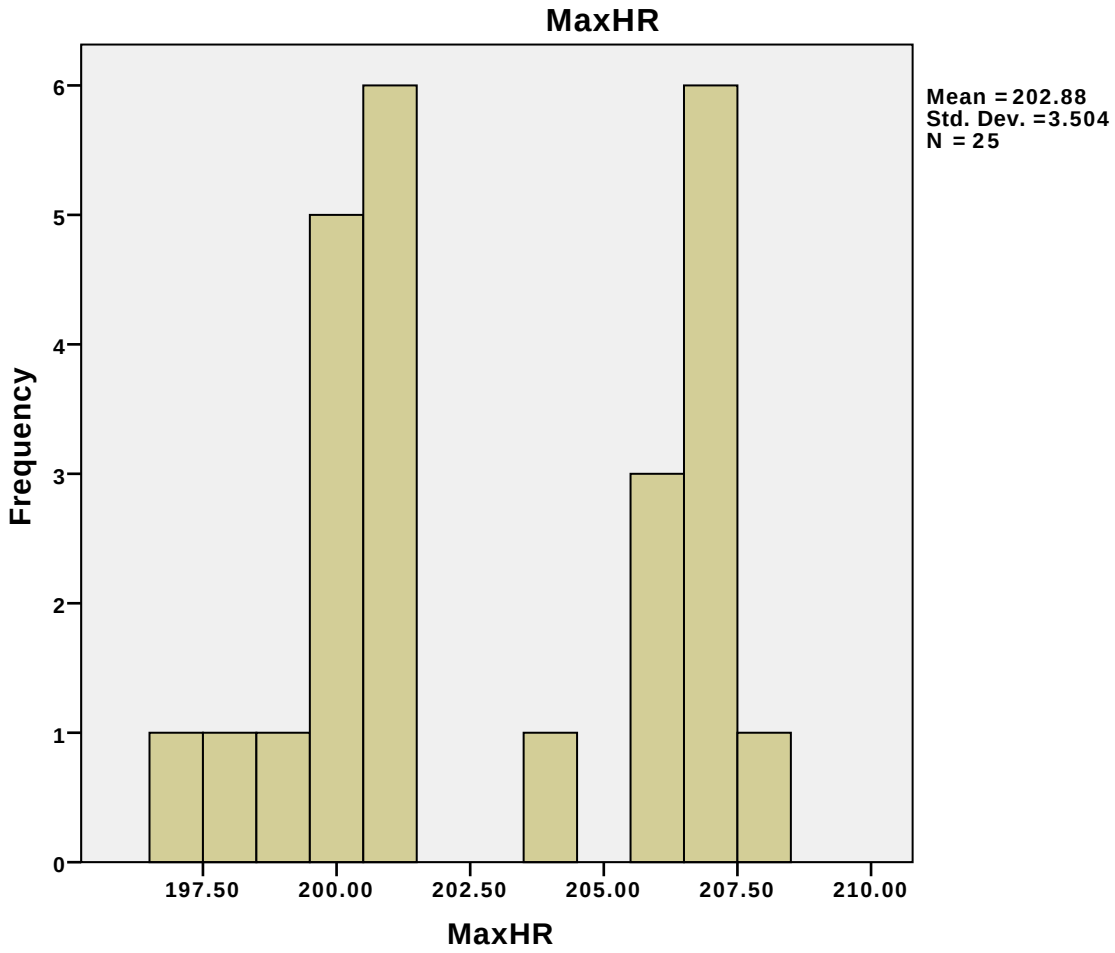

Second_HR
Mean = 21.08
Std. Dev. = 3.926
N = 25
Frequency
0
1
2
3
4
5
10.00
15.00
20.00
25.00
30.00
35.00
Second_HR

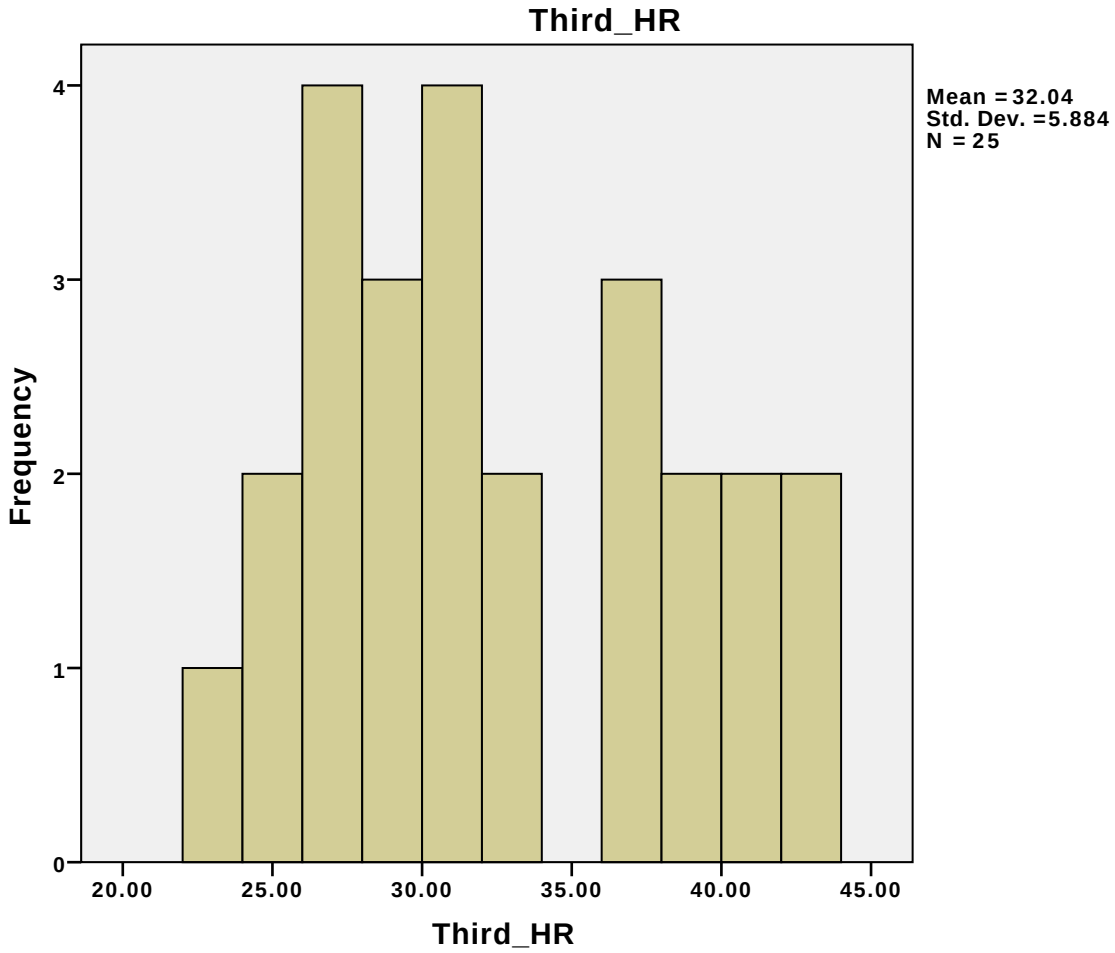

Accuracy_Second_HR
Mean = 2.76
Std. Dev. = .436
N = 25
Frequency
20
15
10
5
0
1.50
2.00
2.50
3.00
3.50
Accuracy_Second_HR

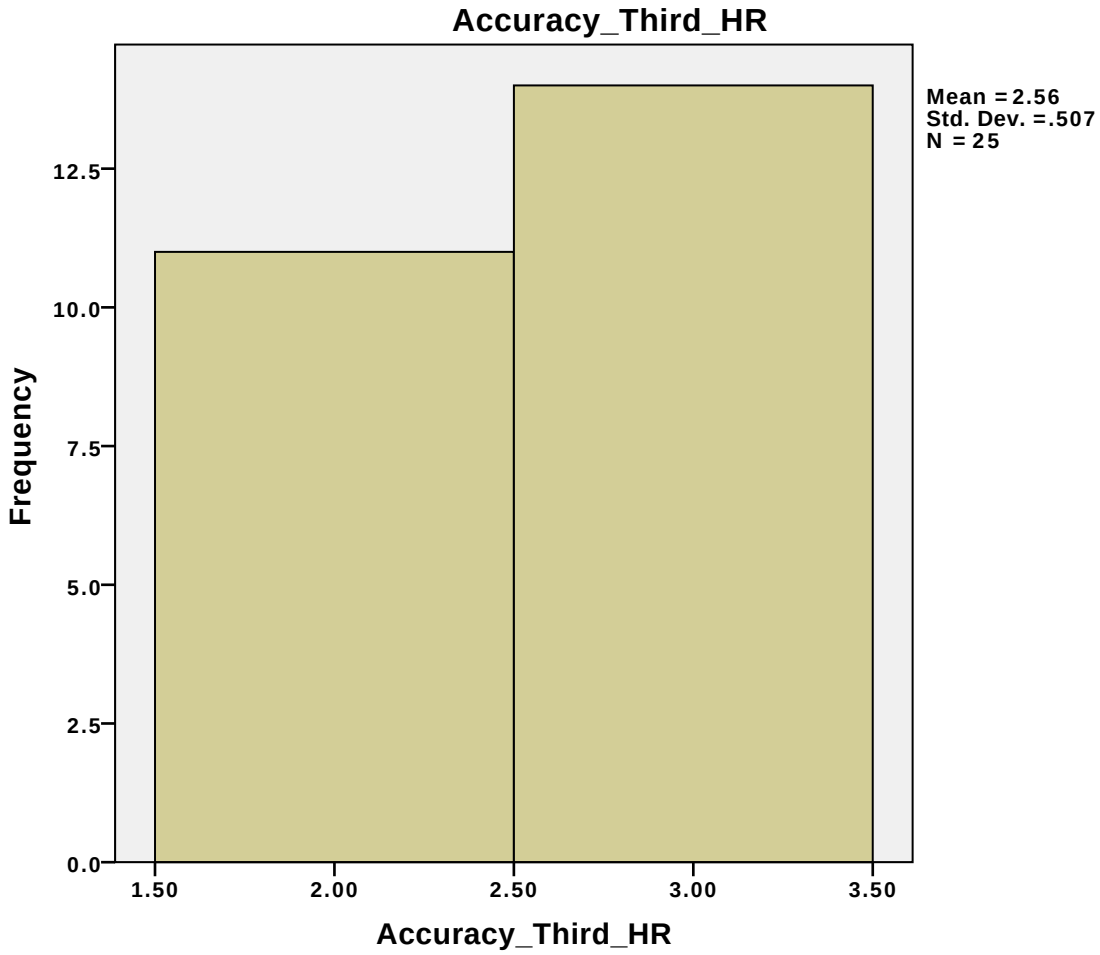

A_List_Words
Mean = 5.36
Std. Dev. = 2.215
N = 25
Frequency
0
2
4
6
.00
2.00
4.00
6.00
8.00
10.00
12.00
A_List_Words

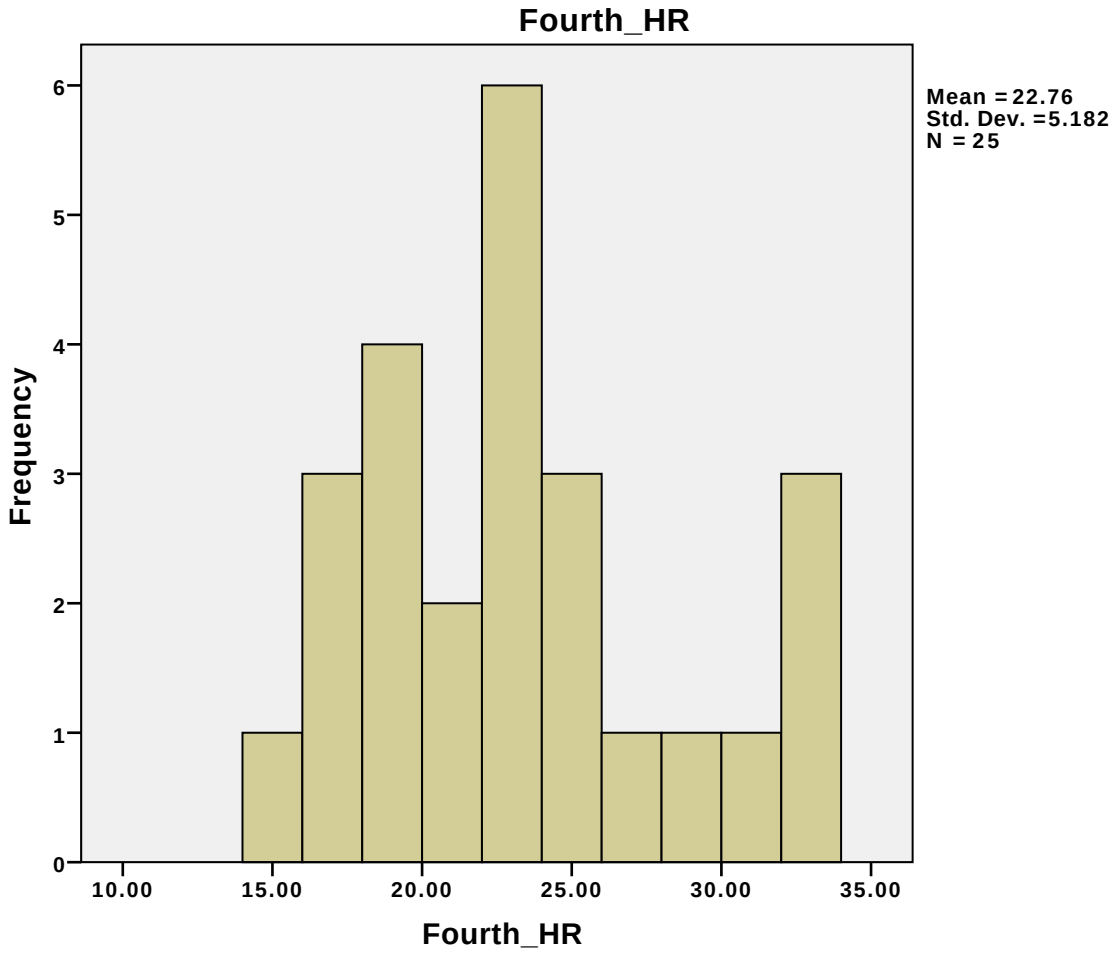

False_Pos_A_List
Mean = .96
Std. Dev. =1.06
N = 25
Frequency
10
8
6
4
2
0
-1.00
.00
1.00
2.00
3.00
4.00
5.00
False_Pos_A_List

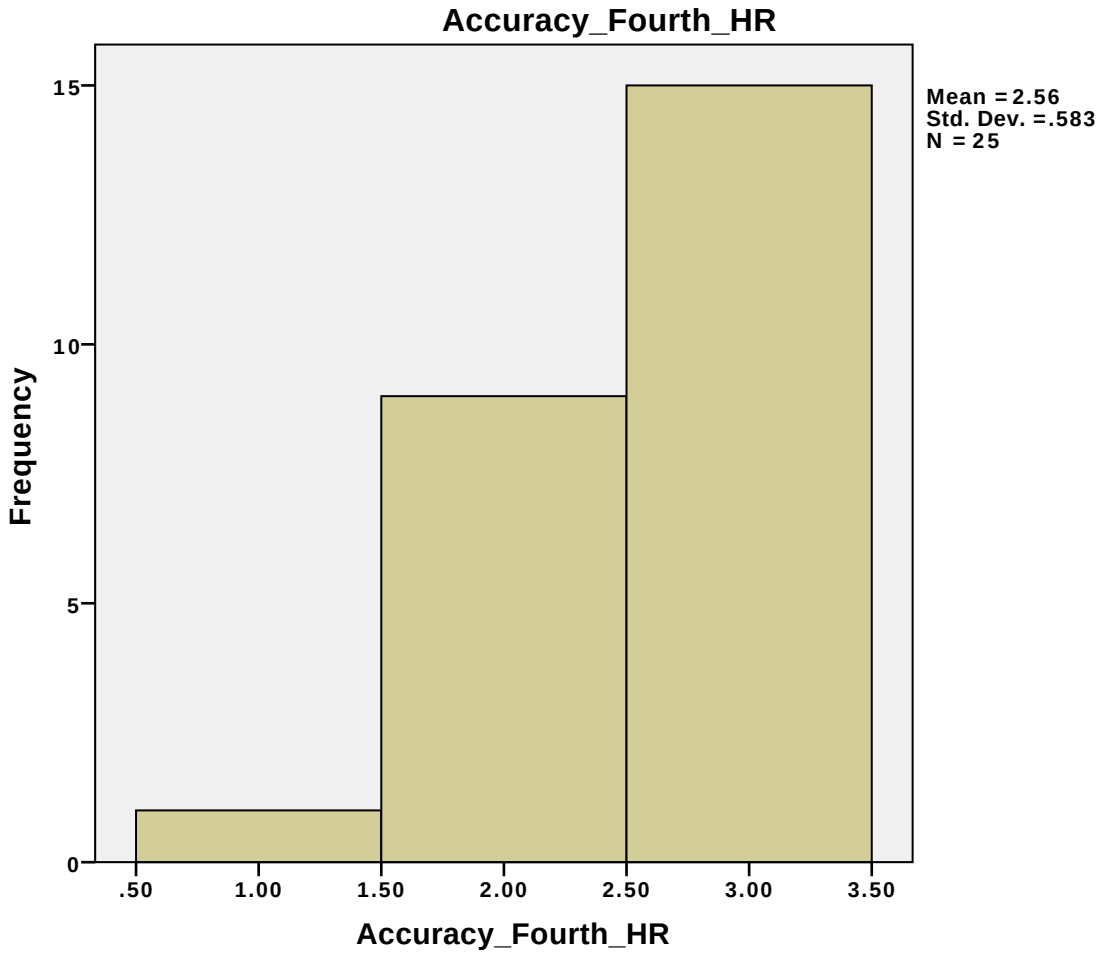

A_Spelling_Error
Mean = .60
Std. Dev. =.816
N = 25
Frequency
12.5
10.0
7.5
5.0
2.5
0.0
-1.00
.00
1.00
2.00
3.00
4.00
A_Spelling_Error

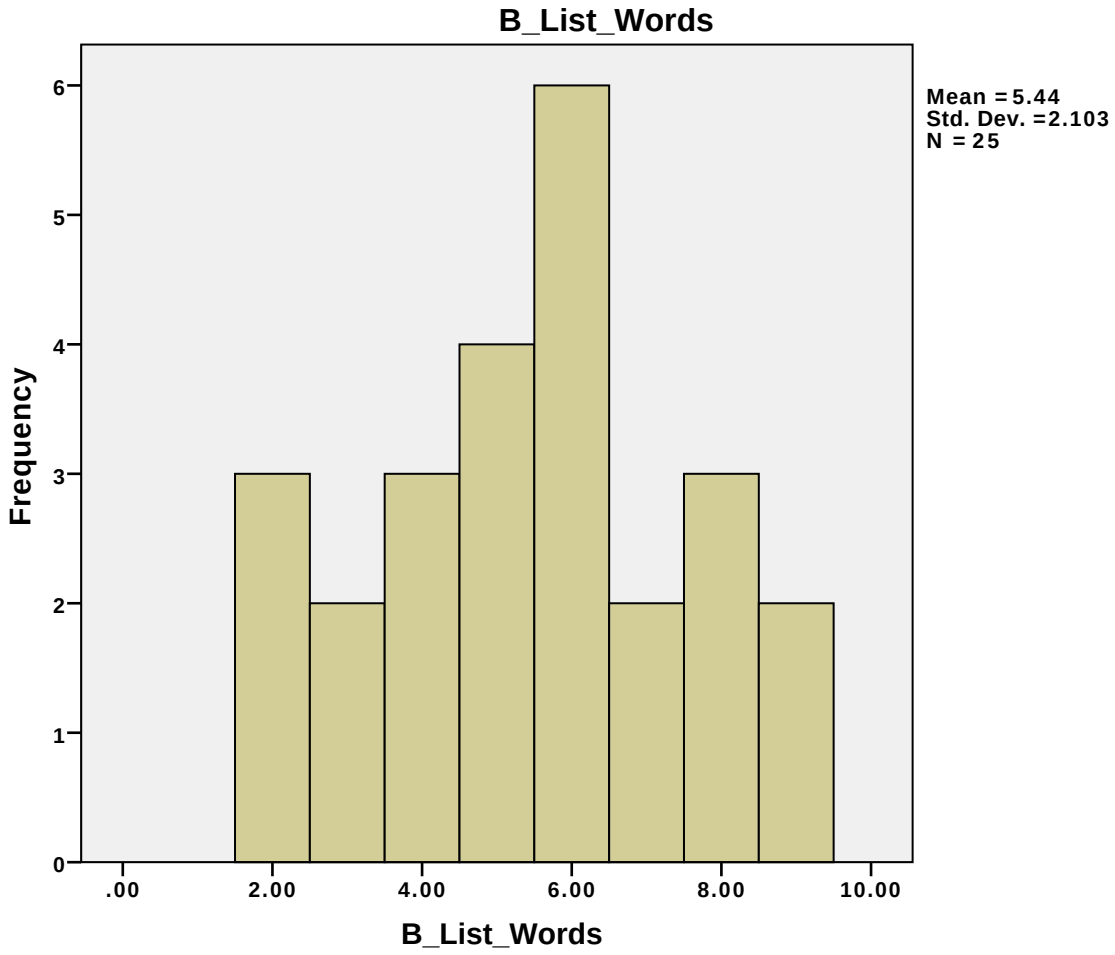

MaxHR
Mean = 202.88
Std. Dev. = 3.504
N = 25
Frequency
0
1
2
3
4
5
6
197.50
200.00
202.50
205.00
207.50
210.00
MaxHR

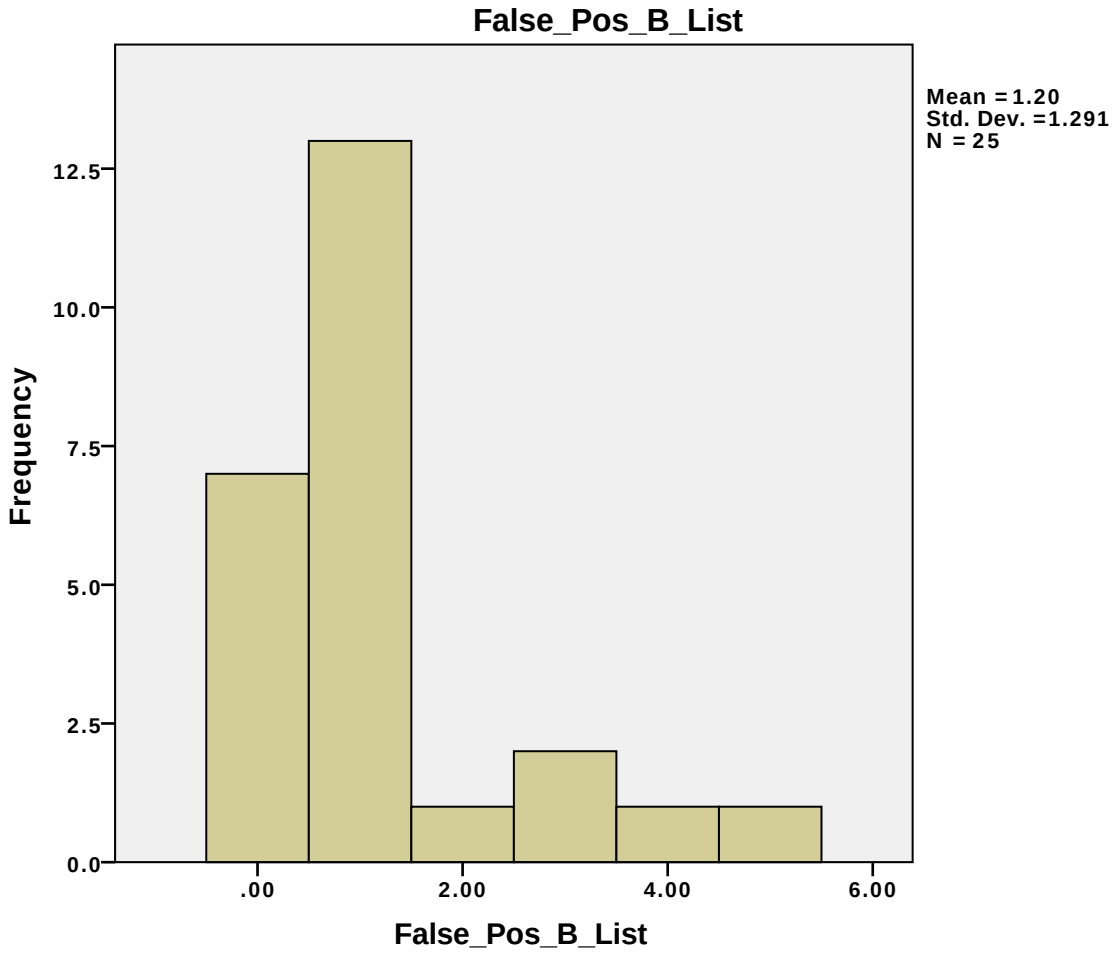

Third_HR
Mean = 32.04
Std. Dev. =5.884
N = 25
Frequency
0
1
2
3
4
20.00
25.00
30.00
35.00
40.00
45.00
Third_HR

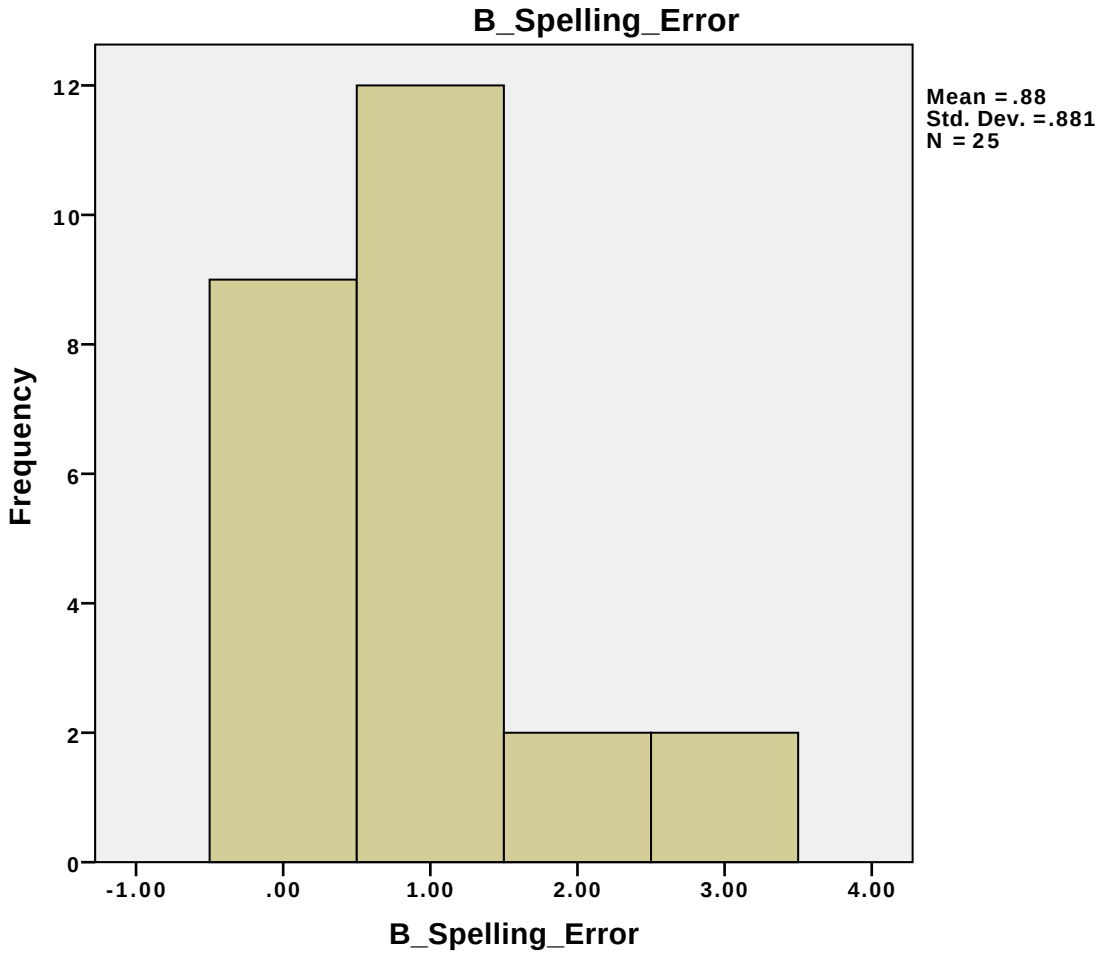

Accuracy_Third_HR
Mean = 2.56
Std. Dev. =.507
N = 25
Frequency
12.5
10.0
7.5
5.0
2.5
0.0
1.50
2.00
2.50
3.00
3.50
Accuracy_Third_HR

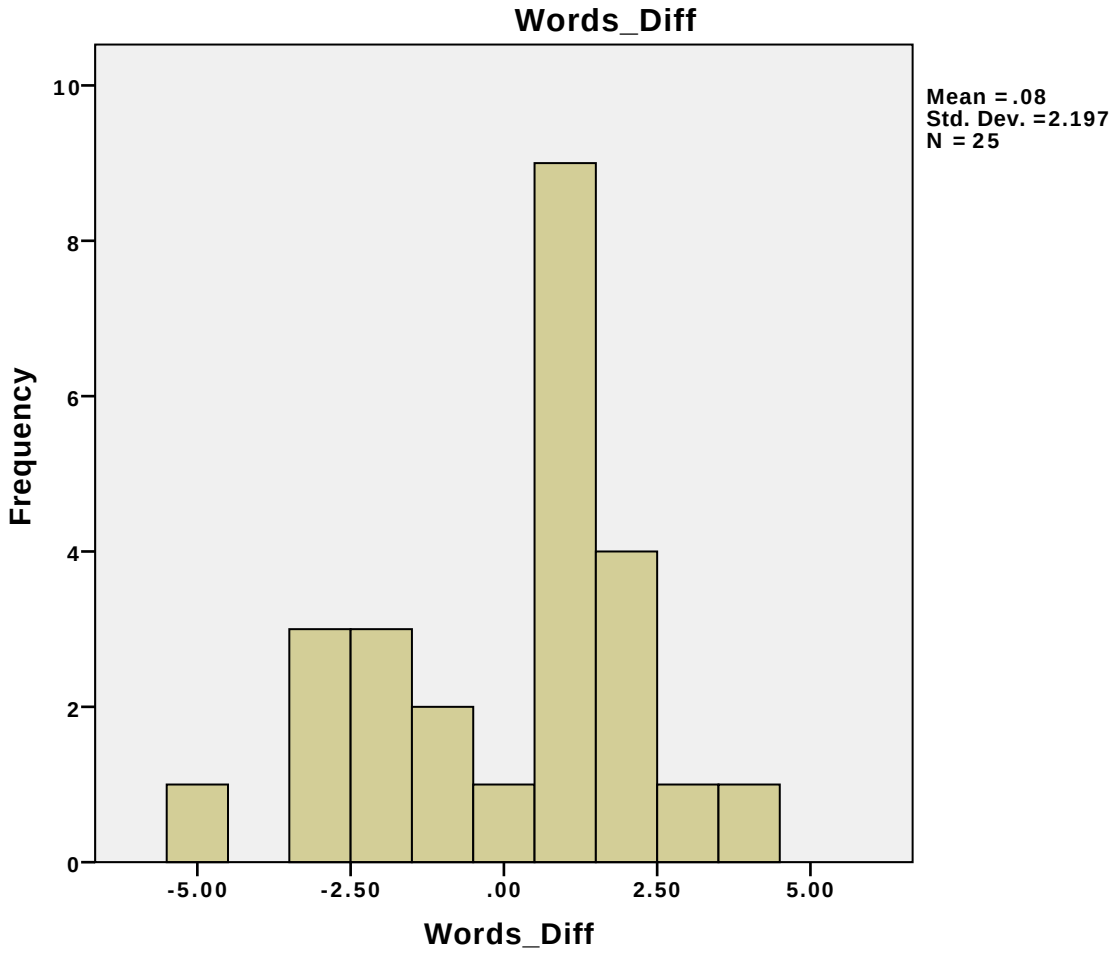

Fourth_HR
Mean = 22.76
Std. Dev. =5.182
N = 25
Frequency
0
1
2
3
4
5
6
10.00
15.00
20.00
25.00
30.00
35.00
Fourth_HR

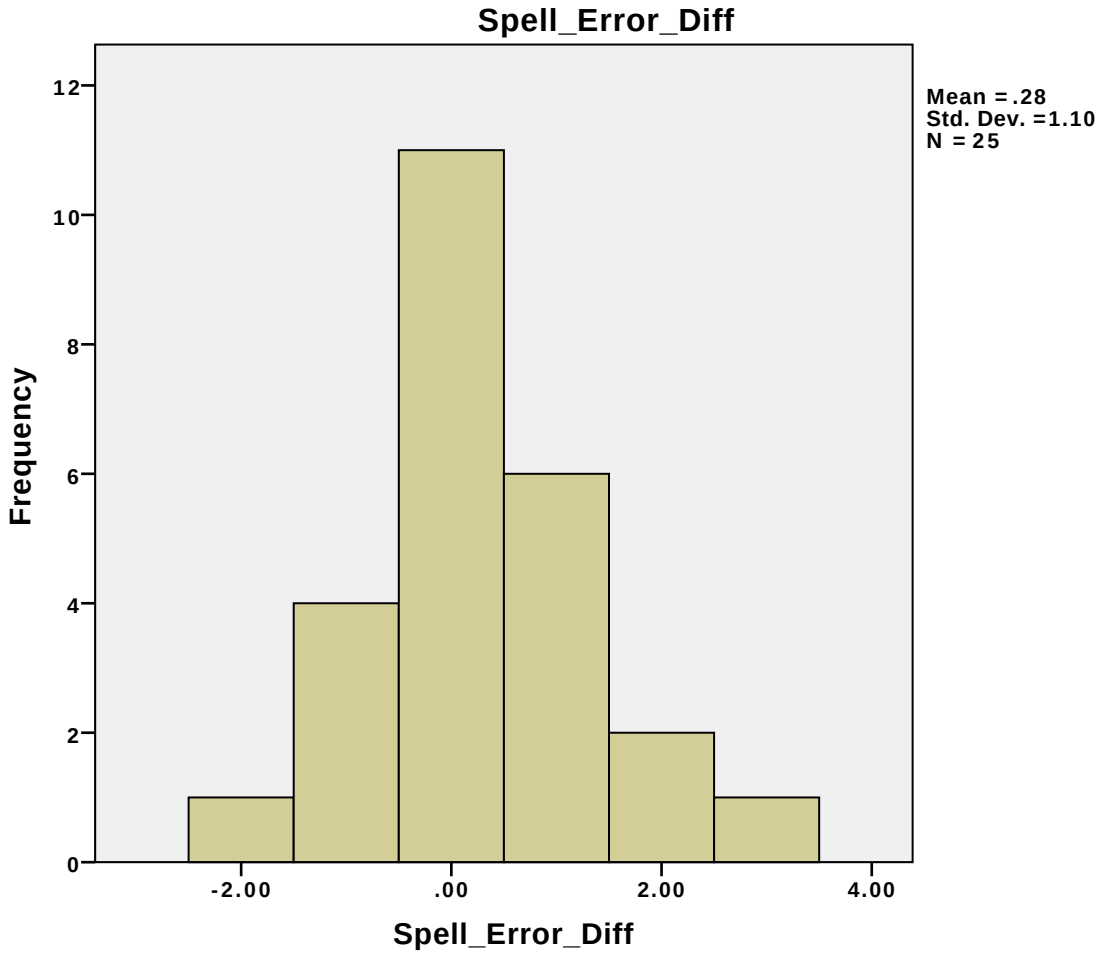

Accuracy_Fourth_HR
Mean = 2.56
Std. Dev. =.583
N = 25
Frequency
15
10
5
0
.50
1.00
1.50
2.00
2.50
3.00
3.50
Accuracy_Fourth_HR

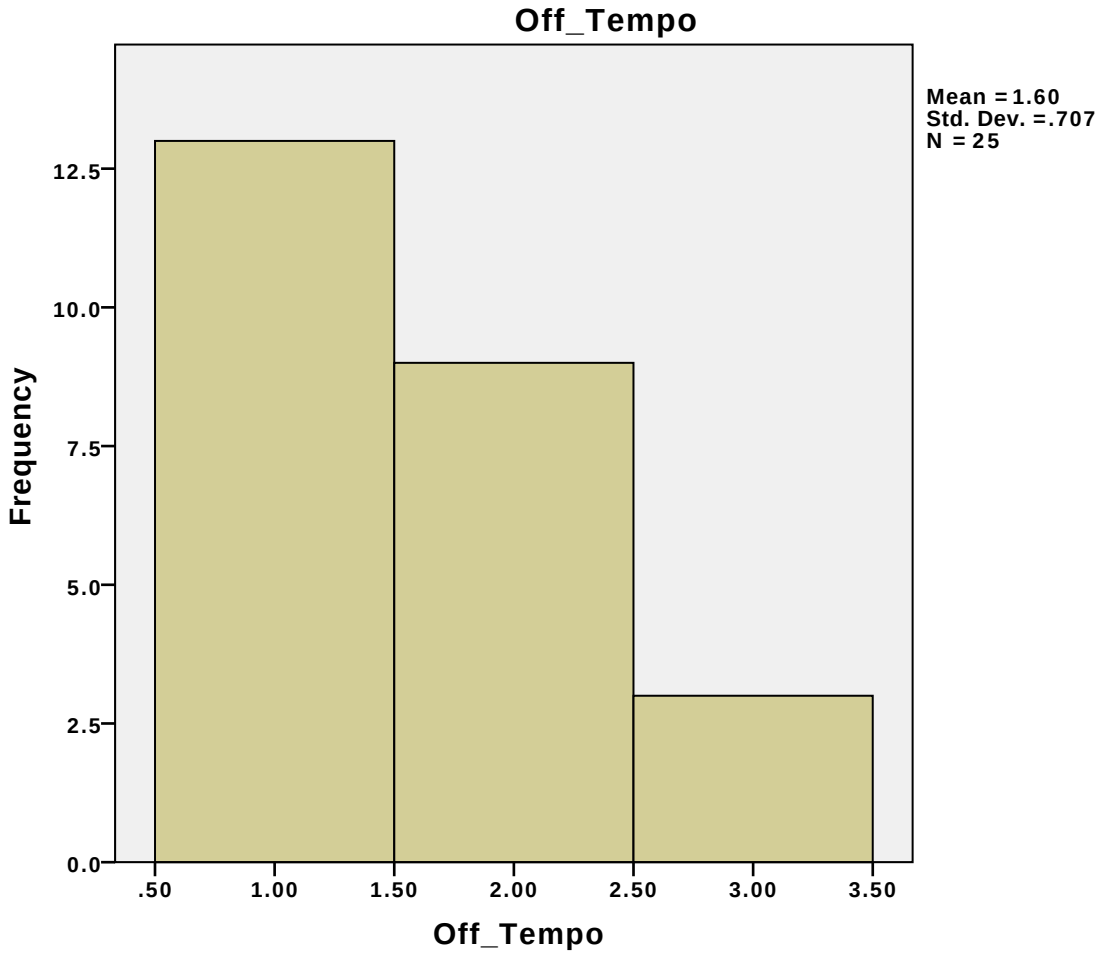

B_List_Words
Mean = 5.44
Std. Dev. = 2.103
N = 25
Frequency
0
1
2
3
4
5
6
.00
2.00
4.00
6.00
8.00
10.00
B_List_Words

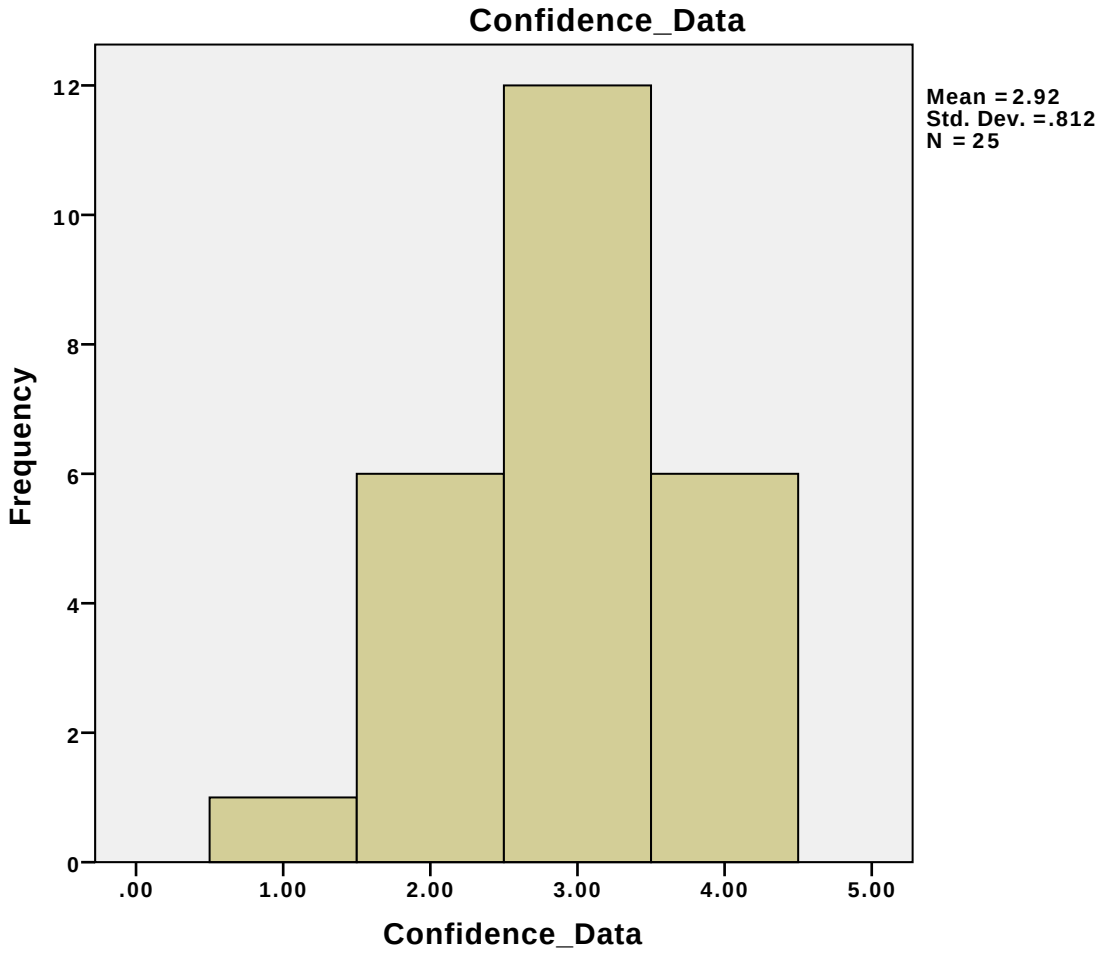

False_Pos_B_List
Mean = 1.20
Std. Dev. = 1.291
N = 25
Frequency
12.5
10.0
7.5
5.0
2.5
0.0
.00
2.00
4.00
6.00
False_Pos_B_List

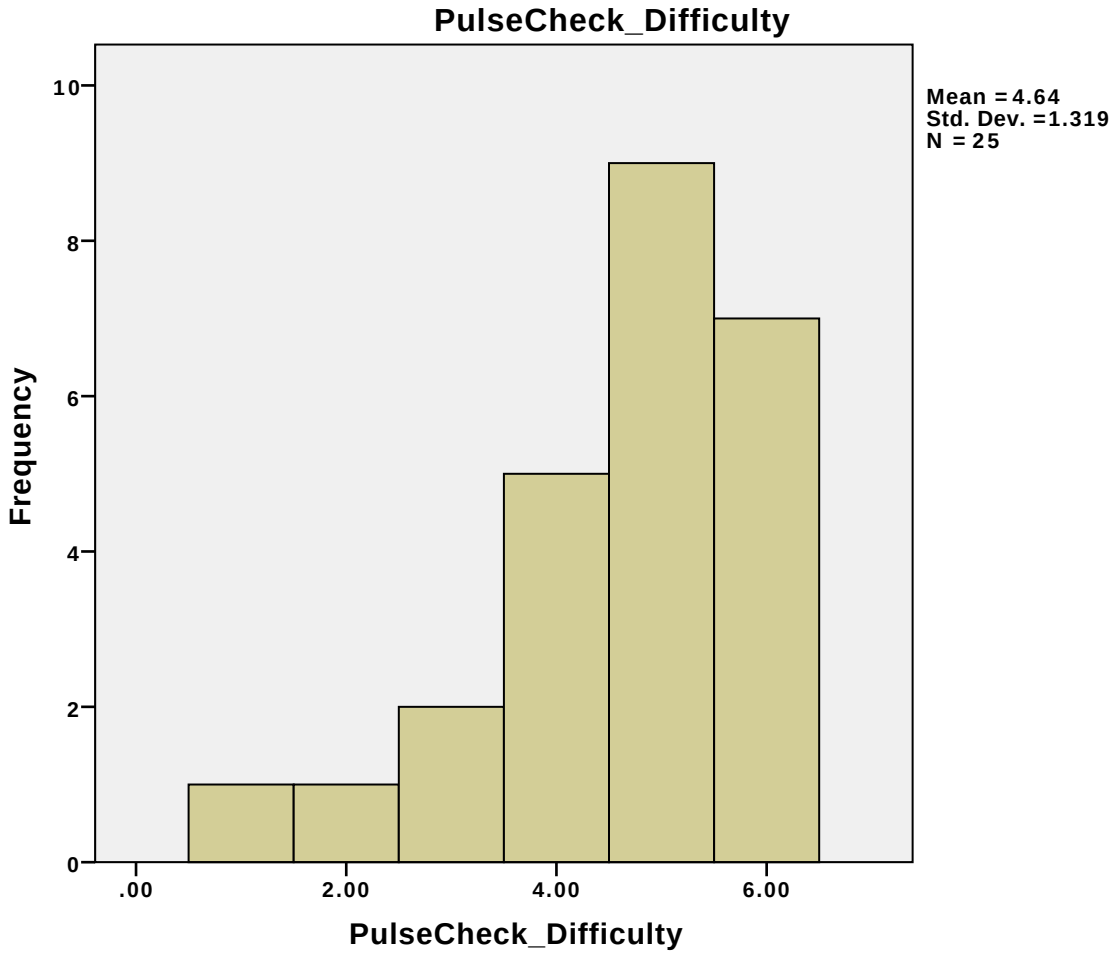

B_Spelling_Error
Mean = .88
Std. Dev. =.881
N = 25
Frequency
12
10
8
6
4
2
0
-1.00
.00
1.00
2.00
3.00
4.00
B_Spelling_Error

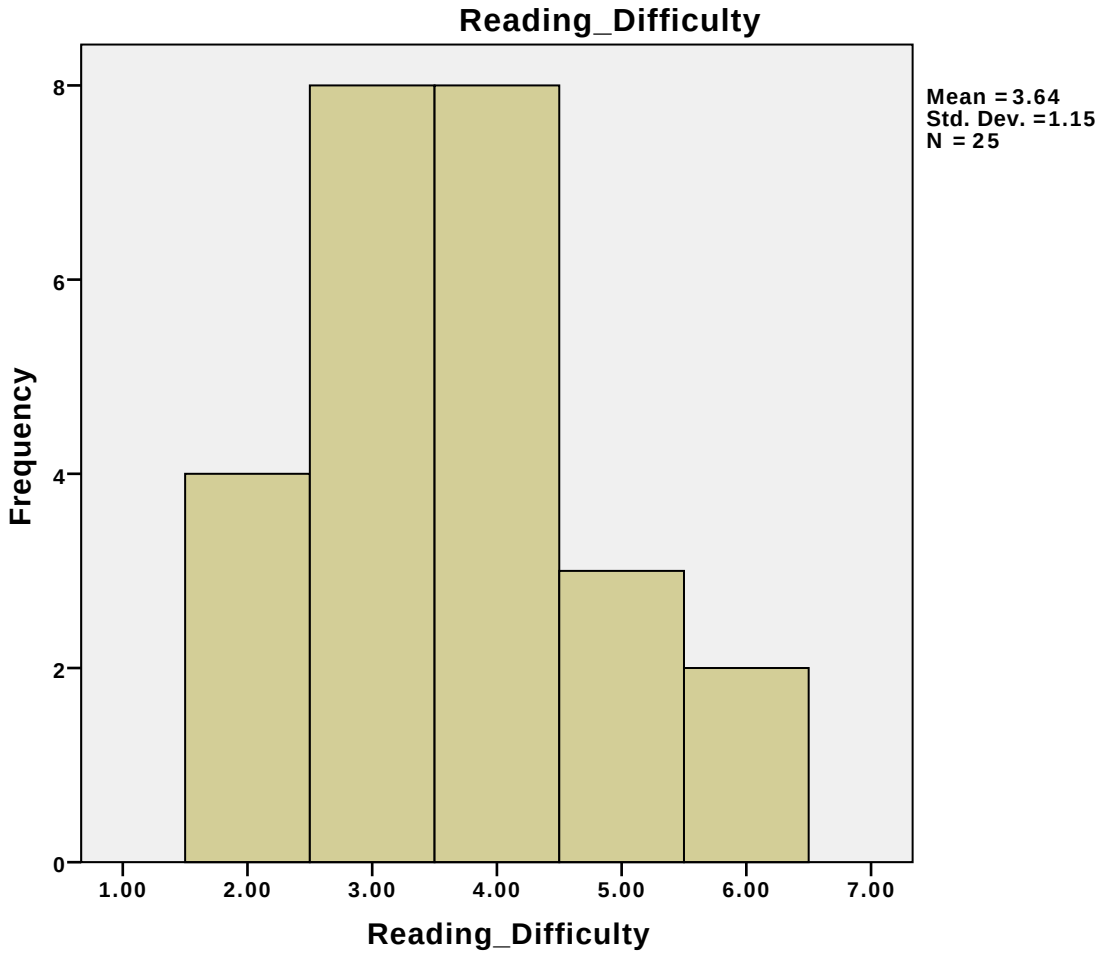

Words_Diff
Mean = .08
Std. Dev. =2.197
N = 25
Frequency
10
8
6
4
2
0
-5.00
-2.50
.00
2.50
5.00
Words_Diff

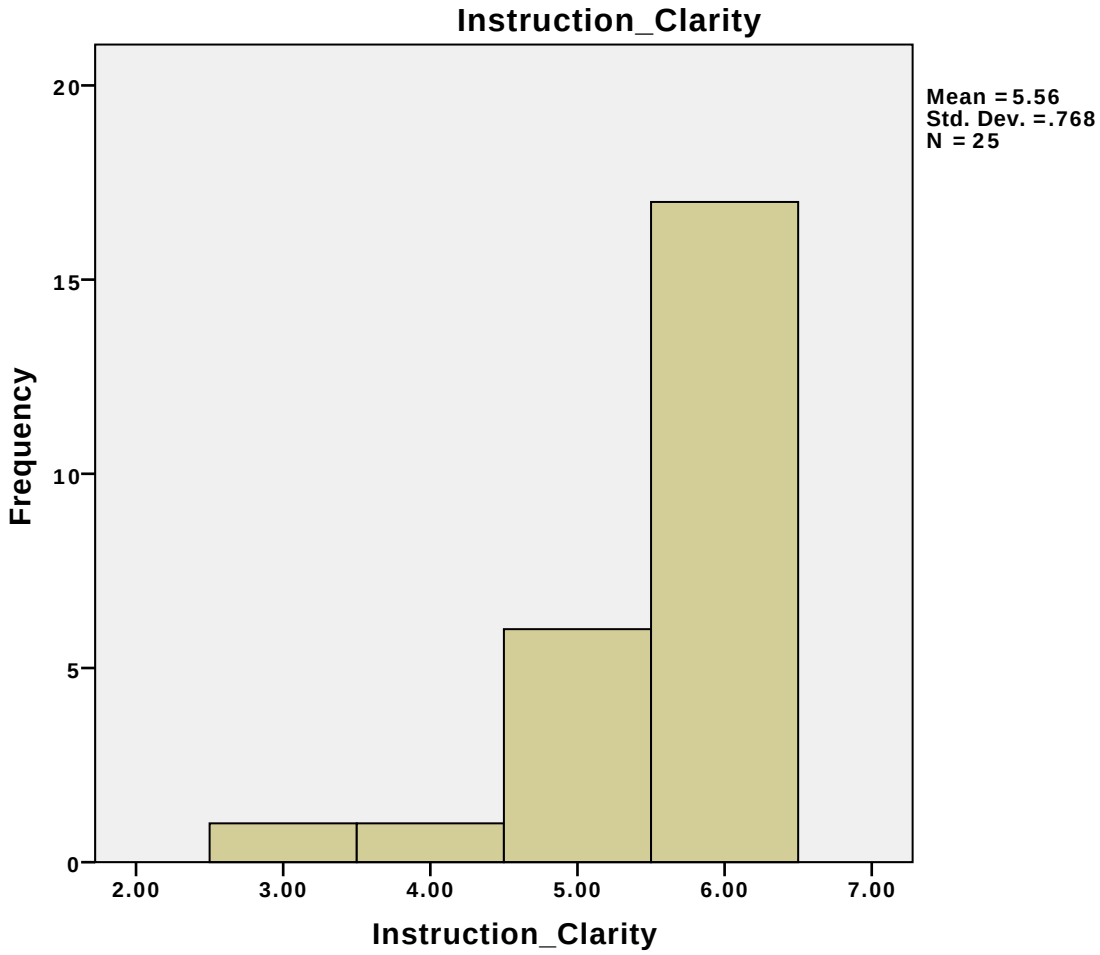

Spell_Error_Diff
Mean = .28
Std. Dev. =1.10
N = 25
Frequency
12
10
8
6
4
2
0
-2.00
.00
2.00
4.00
Spell_Error_Diff

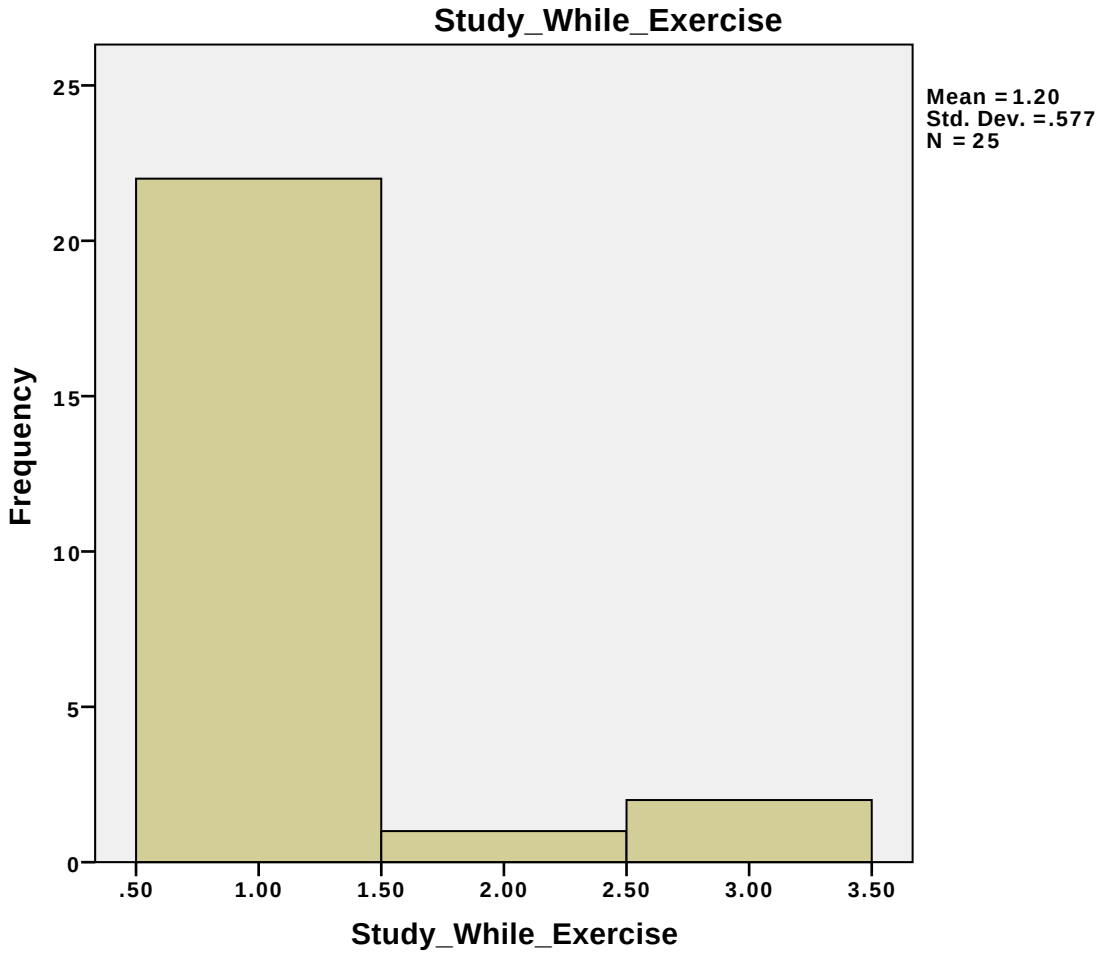

Off_Tempo
Mean = 1.60
Std. Dev. =.707
N = 25
Frequency
12.5
10.0
7.5
5.0
2.5
0.0
.50
1.00
1.50
2.00
2.50
3.00
3.50
Off_Tempo

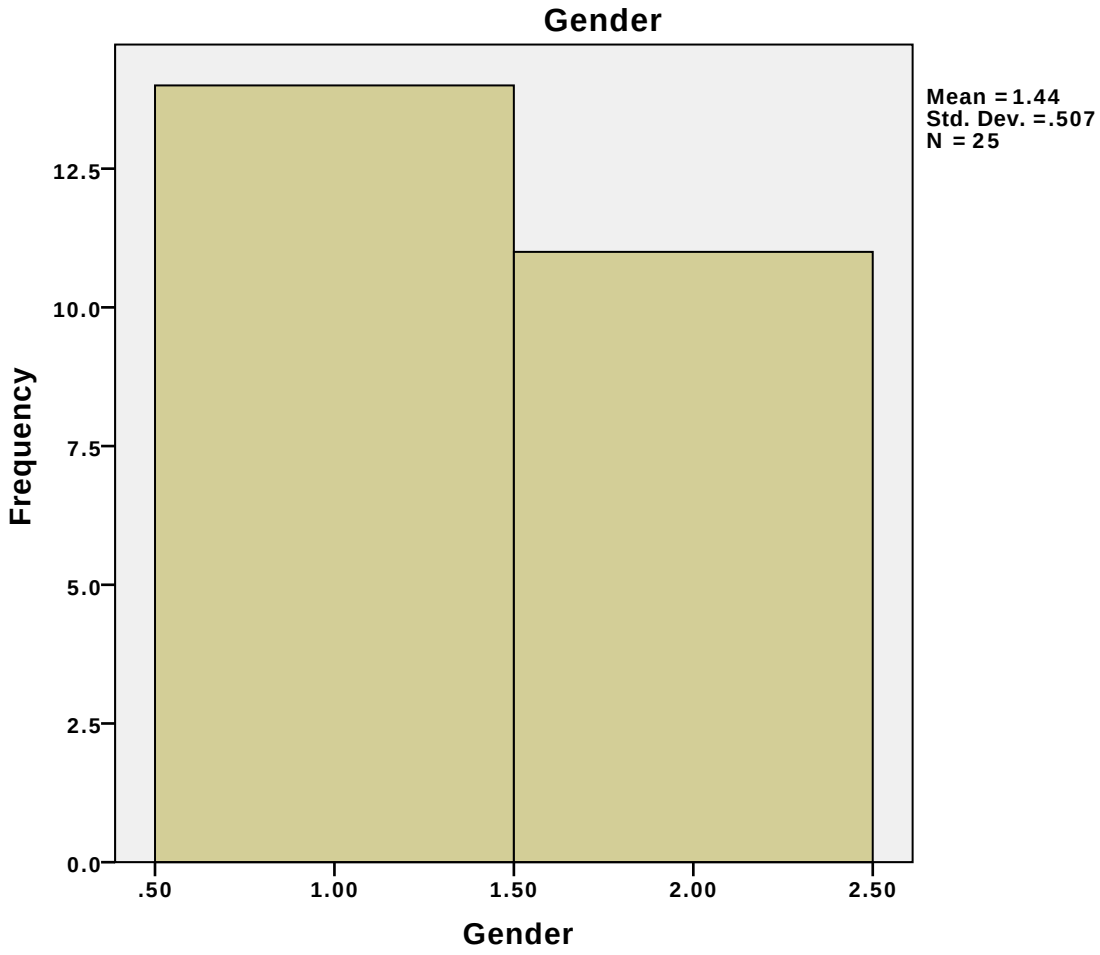

Confidence_Data
Mean = 2.92
Std. Dev. = .812
N = 25
Frequency
0
2
4
6
8
10
12
.00
1.00
2.00
3.00
4.00
5.00
Confidence_Data

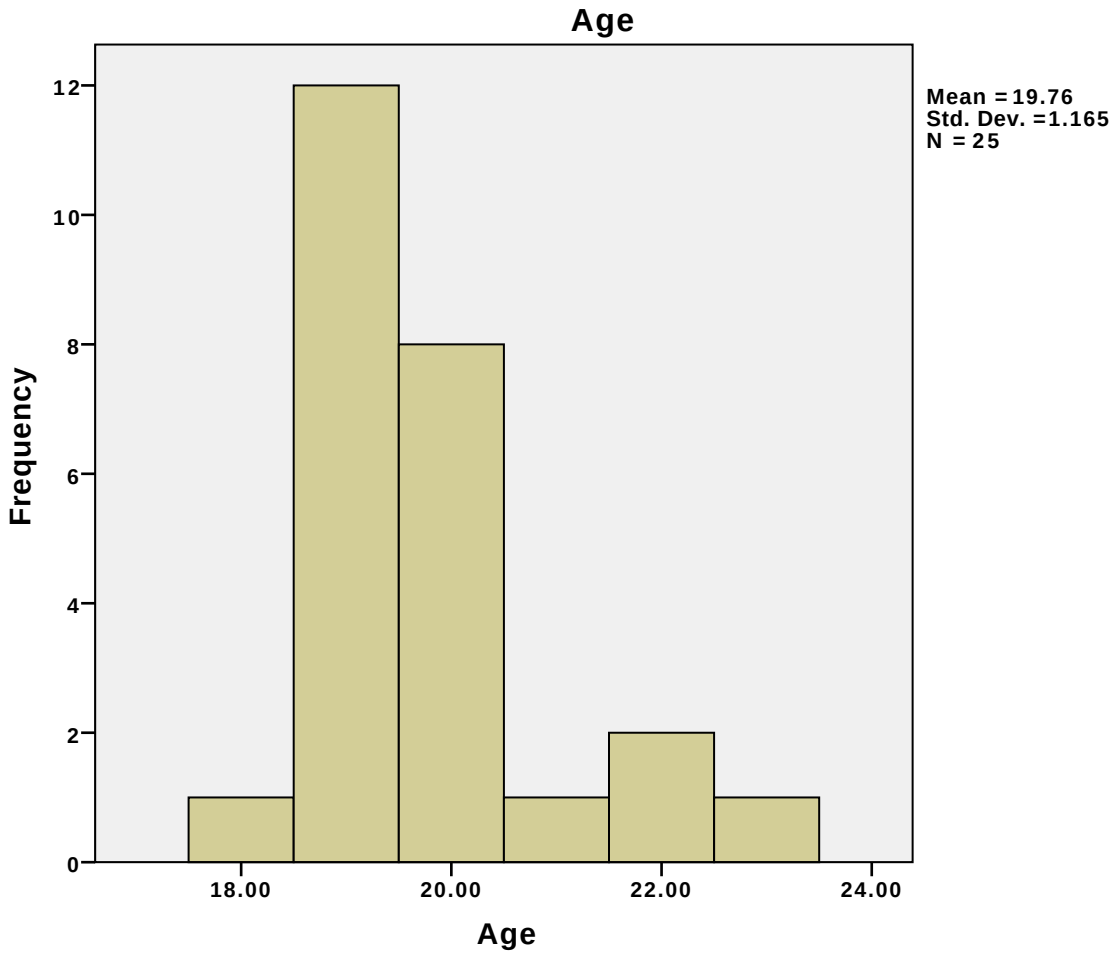

PulseCheck_Difficulty
Mean = 4.64
Std. Dev. = 1.319
N = 25
Frequency
10
8
6
4
2
0
.00
2.00
4.00
6.00
PulseCheck_Difficulty

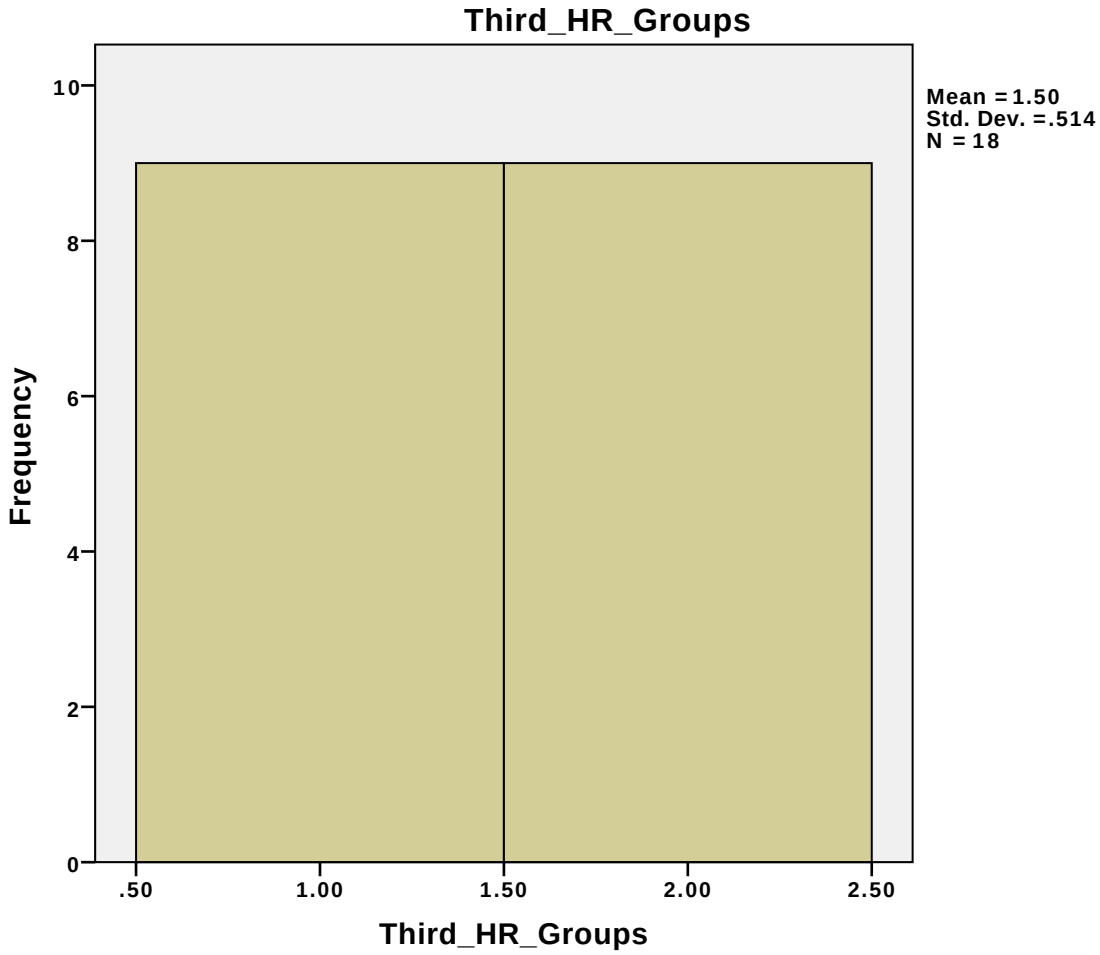

Reading_Difficulty
Mean = 3.64
Std. Dev. =1.15
N = 25
Frequency
0
2
4
6
8
1.00
2.00
3.00
4.00
5.00
6.00
7.00
Reading_Difficulty


Instruction_Clarity
Mean = 5.56
Std. Dev. = .768
N = 25
Frequency
20
15
10
5
0
2.00
3.00
4.00
5.00
6.00
7.00
Instruction_Clarity


Study_While_Exercise
Mean = 1.20
Std. Dev. =.577
N = 25
Frequency
25
20
15
10
5
0
.50
1.00
1.50
2.00
2.50
3.00
3.50
Study_While_Exercise


Gender
Mean = 1.44
Std. Dev. =.507
N = 25
Frequency
12.5
10.0
7.5
5.0
2.5
0.0
.50
1.00
1.50
2.00
2.50
Gender


Age
Mean = 19.76
Std. Dev. =1.165
N = 25
Frequency
12
10
8
6
4
2
0
18.00
20.00
22.00
24.00
Age

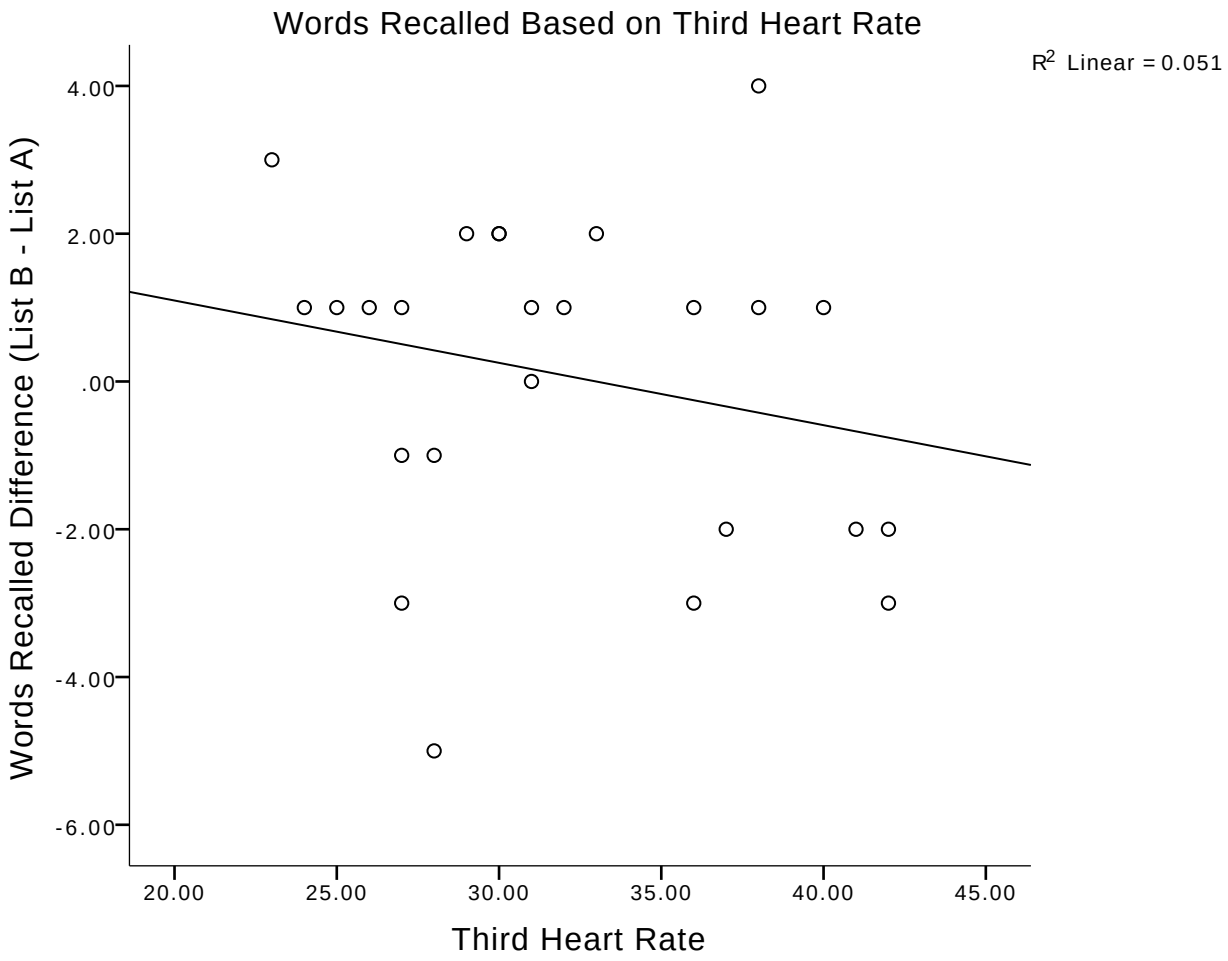



```
 GET
  FILE='/Users/wiebold.theo/Documents/Effects of Exercise on Memory Recall Dat
a.sav'.
DATASET NAME DataSet1 WINDOW=FRONT.
GRAPH
  /SCATTERPLOT(BIVAR)=Third_HR_GroupsWITH Words_Diff
  /MISSING=LISTWISE
  /TITLE='Words Recalled based on 3rd Heart Rate'.
```

Graph

Notes

Output Created		**29-APR-2016 12:07:...**
Comments		
Input	**Data**	**/Users/wiebold.theo/Documents/Effects of Exercise on Memory Recall Data.sav**
	Active Dataset	**DataSet1**
	Filter	**<none>**
	Weight	**<none>**
	Split File	**<none>**
	N of Rows in Working Data File	**25**
Syntax		**GRAPH /SCATTERPLOT(BIVAR)=Third_HR WITH Words_Diff /MISSING=LISTWISE /TITLE='Words Recalled based on 3rd Heart Rate'.**
Resources	**Processor Time**	**00:00:00.22**
	Elapsed Time	**00:00:00.00**

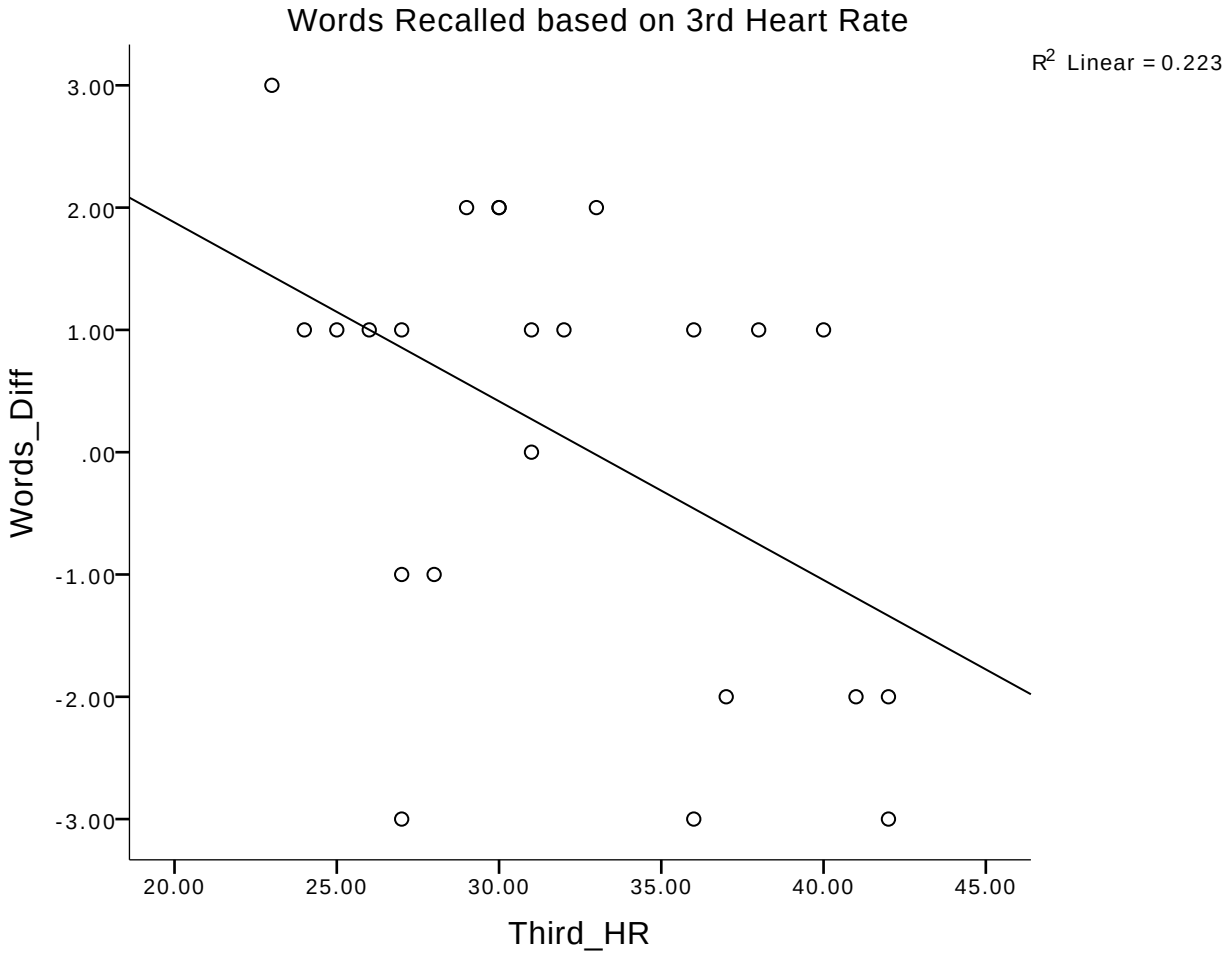



```
GRAPH
  /SCATTERPLOT(BIVAR)=Third_HR WITH Words_Diff
  /MISSING=LISTWISE
  /TITLE='Words Recalled based on 3rd Heart Rate'.
```

Graph

Notes

Output Created		**29-APR-2016 12:30:...**
Comments		
Input	**Data**	**/Users/wiebold.theo/Documents/Effects of Exercise on Memory Recall Data.sav**
	Active Dataset	**DataSet1**
	Filter	**<none>**
	Weight	**<none>**
	Split File	**<none>**
	N of Rows in Working Data File	**23**
Syntax		**GRAPH /SCATTERPLOT(BIVAR)=Third_HR WITH Words_Diff /MISSING=LISTWISE /TITLE='Words Recalled based on 3rd Heart Rate'.**
Resources	**Processor Time**	**00:00:00.22**
	Elapsed Time	**00:00:00.00**

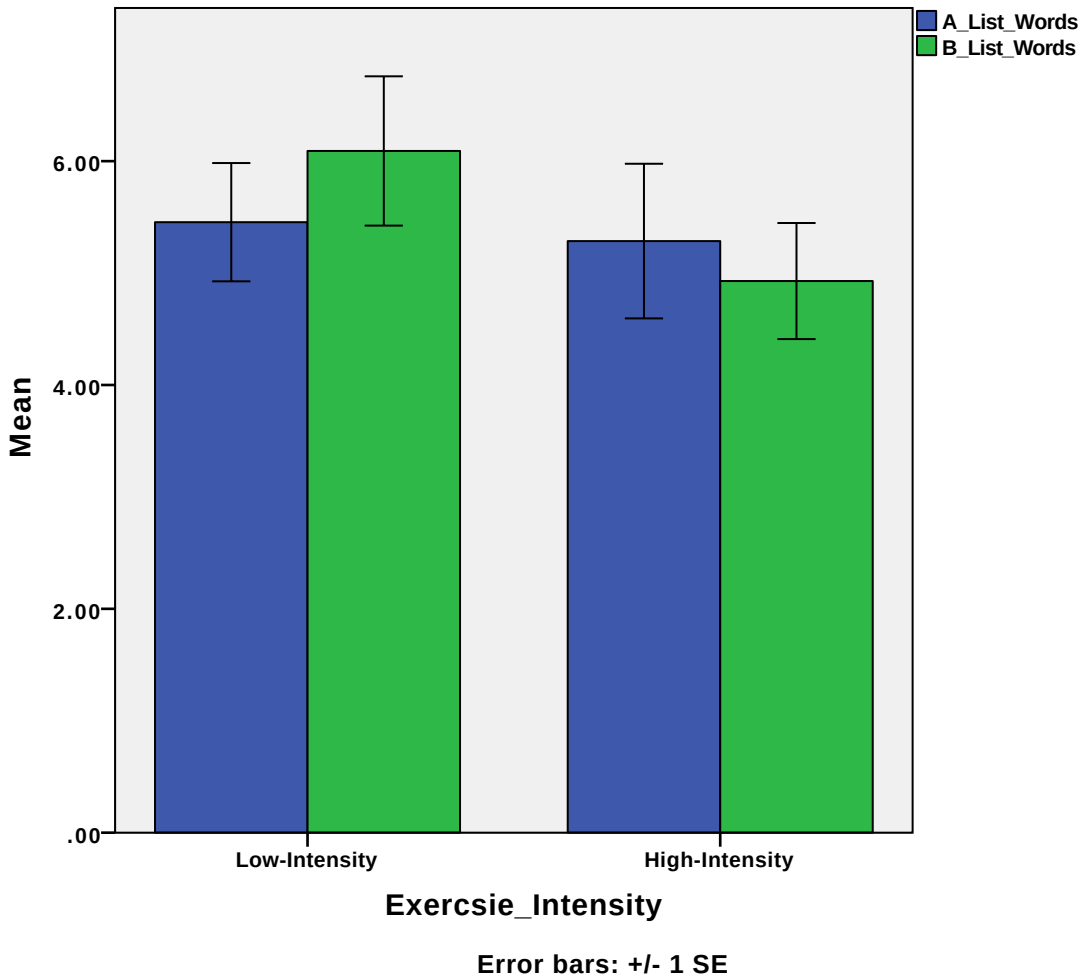



```
GRAPH
 /BAR(SIMPLE)=MEAN(B_List_Words) BY Exercsie_Intensity.
```

Graph

Notes

Output Created		**29-APR-2016 12:51:...**
Comments		
Input	**Data**	**/Users/wiebold.theo/Documents/Effects of Exercise on Memory Recall Data.sav**
	Active Dataset	**DataSet1**
	Filter	**<none>**
	Weight	**<none>**
	Split File	**<none>**
	N of Rows in Working Data File	**25**
Syntax		**GRAPH /BAR(GROUPED) =MEAN(A_List_Words) MEAN(B_List_Words) BY Exercsie_Intensity /MISSING=LISTWISE /INTERVAL SE(1.0).**
Resources	**Processor Time**	**00:00:00.22**
	Elapsed Time	**00:00:00.00**




```
GLM A_List_Words B_List_Words BY Exercsie_Intensity
  /WSFACTOR=Word_List_Comparison2 Polynomial
  /METHOD=SSTYPE(3)
  /PLOT=PROFILE(Exercsie_Intensity*Word_List_Comparison)
  /EMMEANS=TABLES(Exercsie_Intensity)
  /EMMEANS=TABLES(Word_List_Comparison)
  /PRINT=DESCRIPTIVE
  /CRITERIA=ALPHA(.05)
  /WSDESIGN=Word_List_Comparison
  /DESIGN=Exercsie_Intensity
```

General Linear Model

Notes

Output Created		29-APR-2016 12:57:...
Comments		
Input	Data	/Users/wiebold.theo/Documents/Effects of Exercise on Memory Recall Data.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	25
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.
Syntax		GLM A_List_Words B_List_Words BY Exercsie_Intensity /WSFACTOR=Word_List_Comparison 2 Polynomial /METHOD=SSTYPE(3) /PLOT=PROFILE (Exercsie_Intensity*Word_List_Comparison) /EMMEANS=TABLES (Exercsie_Intensity) /EMMEANS=TABLES (Word_List_Comparison) /PRINT=DESCRIPTIVE /CRITERIA=ALPHA(.05) /WSDESIGN=Word_List_Comparison /DESIGN=Exercsie_Intensity.
Resources	Processor Time	00:00:00.19
	Elapsed Time	00:00:00.00

Within-Subjects Factors

Measure: MEASURE_1

Word_List_Comparison	Dependent Variable
1	A_List_Words
2	B_List_Words

Between-Subjects Factors

		Value Label	N
Exercsie_Intensity	1.00	Low-Intensity	11
	2.00	High-Intensity	14

Descriptive Statistics

	Exercsie_Intensity	Mean	Std. Deviation	N
A_List_Words	Low-Intensity	5.4545	1.75292	11
	High-Intensity	5.2857	2.58482	14
	Total	5.3600	2.21510	25
B_List_Words	Low-Intensity	6.0909	2.21154	11
	High-Intensity	4.9286	1.94004	14
	Total	5.4400	2.10317	25

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df	Sig.
Word_List_Comparison	Pillai's Trace	.004	.101[b]	1.000	23.000	.754
	Wilks' Lambda	.996	.101[b]	1.000	23.000	.754
	Hotelling's Trace	.004	.101[b]	1.000	23.000	.754
	Roy's Largest Root	.004	.101[b]	1.000	23.000	.754
Word_List_Comparison * Exercsie_Intensity	Pillai's Trace	.052	1.274[b]	1.000	23.000	.271
	Wilks' Lambda	.948	1.274[b]	1.000	23.000	.271
	Hotelling's Trace	.055	1.274[b]	1.000	23.000	.271
	Roy's Largest Root	.055	1.274[b]	1.000	23.000	.271

a. Design: Intercept + Exercsie_Intensity
Within Subjects Design: Word_List_Comparison

b. Exact statistic

Mauchly's Test of Sphericity[a]

Measure: MEASURE_1

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[b]		
					Greenhouse-Geisser	Huynh-Feldt	Lower-bound
Word_List_Comparison	1.000	.000	0	.	1.000	1.000	1.000

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept + Exercsie_Intensity
Within Subjects Design: Word_List_Comparison

b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
Word_List_Comparison	Sphericity Assumed	.240	1	.240	.101	.754
	Greenhouse-Geisser	.240	1.000	.240	.101	.754
	Huynh-Feldt	.240	1.000	.240	.101	.754
	Lower-bound	.240	1.000	.240	.101	.754
Word_List_Comparison * Exercsie_Intensity	Sphericity Assumed	3.040	1	3.040	1.274	.271
	Greenhouse-Geisser	3.040	1.000	3.040	1.274	.271
	Huynh-Feldt	3.040	1.000	3.040	1.274	.271
	Lower-bound	3.040	1.000	3.040	1.274	.271
Error (Word_List_Comparison)	Sphericity Assumed	54.880	23	2.386		
	Greenhouse-Geisser	54.880	23.000	2.386		
	Huynh-Feldt	54.880	23.000	2.386		
	Lower-bound	54.880	23.000	2.386		

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Word_List_Comparison	Type III Sum of Squares	df	Mean Square	F	Sig.
Word_List_Comparison	Linear	.240	1	.240	.101	.754
Word_List_Comparison * Exercsie_Intensity	Linear	3.040	1	3.040	1.274	.271
Error (Word_List_Comparison)	Linear	54.880	23	2.386		

Tests of Between-Subjects Effects

Measure: MEASURE_1

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	1458.338	1	1458.338	208.928	.000
Exercsie_Intensity	5.458	1	5.458	.782	.386
Error	160.542	23	6.980		

Estimated Marginal Means

1. Exercsie_Intensity

Measure: MEASURE_1

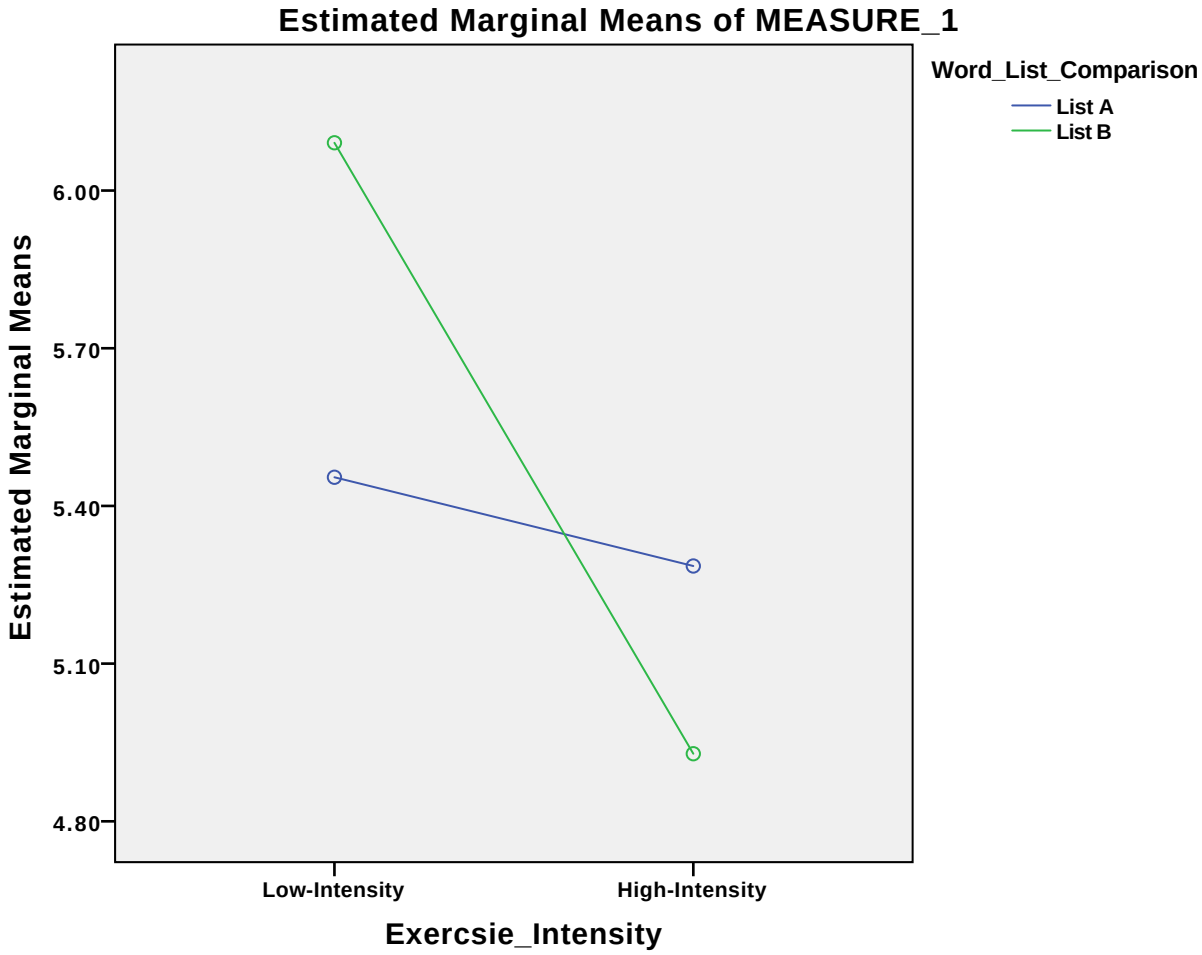
Exercsie_Intensity	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Low-Intensity	5.773	.563	4.608	6.938
High-Intensity	5.107	.499	4.074	6.140

2. Word_List_Comparison

Measure: MEASURE_1

Word_List_Comparison	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	5.370	.456	4.428	6.312
2	5.510	.415	4.650	6.369

Profile Plots

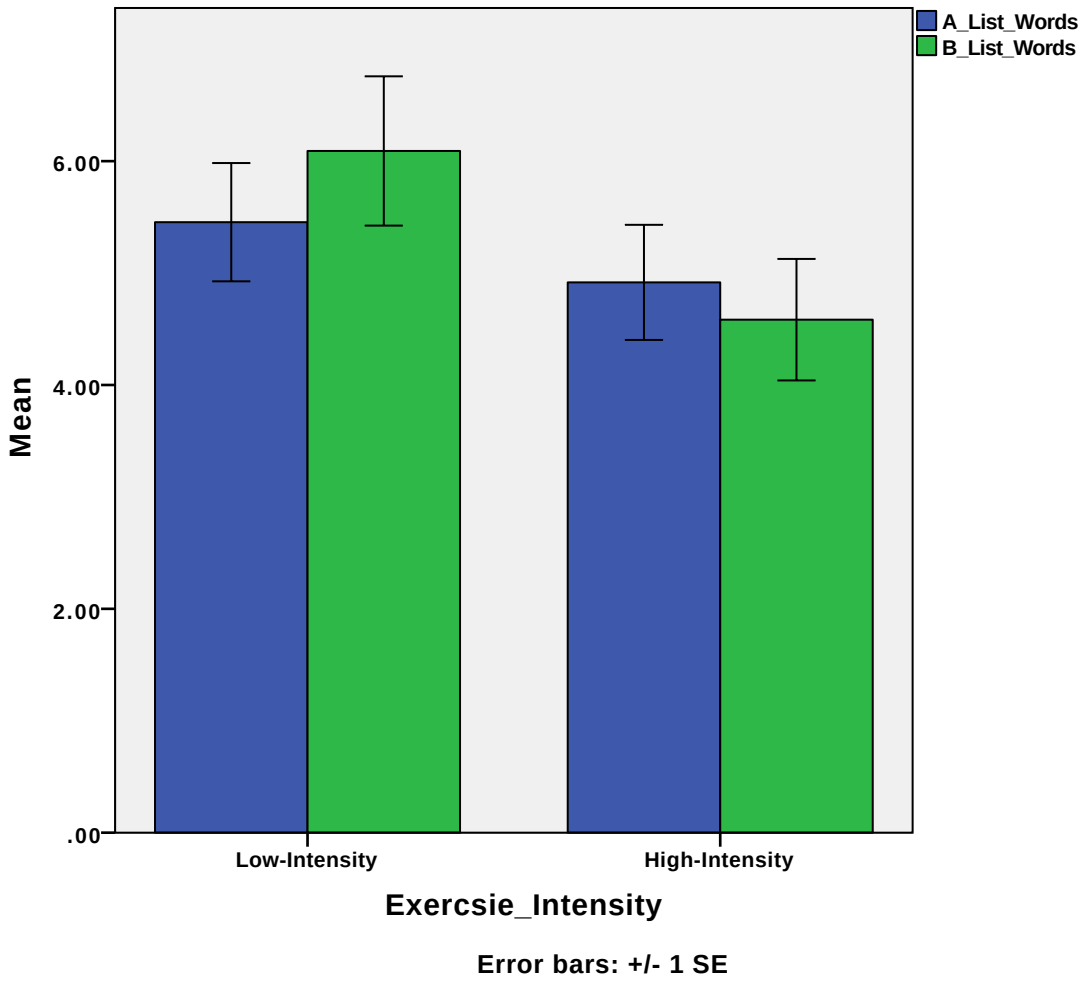



```
GRAPH
 /BAR(GROUPED)=MEAN(A_List_Words) MEAN(B_List_Words) BY Exercsie_Intensity
 /MISSING=LISTWISE
 /INTERVAL SE(1.0).
```

Graph

Notes

Output Created		**29-APR-2016 13:02:...**
Comments		
Input	**Data**	**/Users/wiebold.theo/Documents/Effects of Exercise on Memory Recall Data.sav**
	Active Dataset	**DataSet1**
	Filter	**<none>**
	Weight	**<none>**
	Split File	**<none>**
	N of Rows in Working Data File	**23**
Syntax		**GRAPH /BAR(GROUPED) =MEAN(A_List_Words) MEAN(B_List_Words) BY Exercsie_Intensity /MISSING=LISTWISE /INTERVAL SE(1.0).**
Resources	**Processor Time**	**00:00:00.19**
	Elapsed Time	**00:00:01.00**




```
GLM A_List_Words B_List_Words BY Exercsie_Intensity
  /WSFACTOR=Word_List_Comparison2 Polynomial
  /METHOD=SSTYPE(3)
  /PLOT=PROFILE(Exercsie_Intensity*Word_List_Comparison)
  /EMMEANS=TABLES(Exercsie_Intensity)
  /EMMEANS=TABLES(Word_List_Comparison)
  /PRINT=DESCRIPTIVE
  /CRITERIA=ALPHA(.05)
  /WSDESIGN=Word_List_Comparison
  /DESIGN=Exercsie_Intensity
```

General Linear Model

Notes

Output Created		29-APR-2016 13:02:...
Comments		
Input	Data	/Users/wiebold.theo/Documents/Effects of Exercise on Memory Recall Data.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	23
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.
Syntax		GLM A_List_Words B_List_Words BY Exercsie_Intensity /WSFACTOR=Word_List_Comparison 2 Polynomial /METHOD=SSTYPE(3) /PLOT=PROFILE (Exercsie_Intensity*Word_List_Comparison) /EMMEANS=TABLES (Exercsie_Intensity) /EMMEANS=TABLES (Word_List_Comparison) /PRINT=DESCRIPTIVE /CRITERIA=ALPHA(.05) /WSDESIGN=Word_List_Comparison /DESIGN=Exercsie_Intensity.
Resources	Processor Time	00:00:00.18
	Elapsed Time	00:00:00.00

Within-Subjects Factors

Measure: MEASURE_1

Word_List_Comparison	Dependent Variable
1	A_List_Words
2	B_List_Words

Between-Subjects Factors

		Value Label	N
Exercsie_Intensity	1.00	Low-Intensity	11
	2.00	High-Intensity	12

Descriptive Statistics

	Exercsie_Intensity	Mean	Std. Deviation	N
A_List_Words	Low-Intensity	5.4545	1.75292	11
	High-Intensity	4.9167	1.78164	12
	Total	5.1739	1.74908	23
B_List_Words	Low-Intensity	6.0909	2.21154	11
	High-Intensity	4.5833	1.88092	12
	Total	5.3043	2.14126	23

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df	Sig.
Word_List_Comparison	Pillai's Trace	.008	.160[b]	1.000	21.000	.693
	Wilks' Lambda	.992	.160[b]	1.000	21.000	.693
	Hotelling's Trace	.008	.160[b]	1.000	21.000	.693
	Roy's Largest Root	.008	.160[b]	1.000	21.000	.693
Word_List_Comparison * Exercsie_Intensity	Pillai's Trace	.072	1.637[b]	1.000	21.000	.215
	Wilks' Lambda	.928	1.637[b]	1.000	21.000	.215
	Hotelling's Trace	.078	1.637[b]	1.000	21.000	.215
	Roy's Largest Root	.078	1.637[b]	1.000	21.000	.215

a. Design: Intercept + Exercsie_Intensity
Within Subjects Design: Word_List_Comparison

b. Exact statistic

Mauchly's Test of Sphericity[a]

Measure: MEASURE_1

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[b]		
					Greenhouse-Geisser	Huynh-Feldt	Lower-bound
Word_List_Comparison	1.000	.000	0	.	1.000	1.000	1.000

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept + Exercsie_Intensity
Within Subjects Design: Word_List_Comparison

b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
Word_List_Comparison	Sphericity Assumed	.264	1	.264	.160	.693
	Greenhouse-Geisser	.264	1.000	.264	.160	.693
	Huynh-Feldt	.264	1.000	.264	.160	.693
	Lower-bound	.264	1.000	.264	.160	.693
Word_List_Comparison * Exercsie_Intensity	Sphericity Assumed	2.698	1	2.698	1.637	.215
	Greenhouse-Geisser	2.698	1.000	2.698	1.637	.215
	Huynh-Feldt	2.698	1.000	2.698	1.637	.215
	Lower-bound	2.698	1.000	2.698	1.637	.215
Error (Word_List_Comparison)	Sphericity Assumed	34.606	21	1.648		
	Greenhouse-Geisser	34.606	21.000	1.648		
	Huynh-Feldt	34.606	21.000	1.648		
	Lower-bound	34.606	21.000	1.648		

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Word_List_Comparison	Type III Sum of Squares	df	Mean Square	F	Sig.
Word_List_Comparison	Linear	.264	1	.264	.160	.693
Word_List_Comparison * Exercsie_Intensity	Linear	2.698	1	2.698	1.637	.215
Error (Word_List_Comparison)	Linear	34.606	21	1.648		

Tests of Between-Subjects Effects

Measure: MEASURE_1

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	1270.962	1	1270.962	224.545	.000
Exercsie_Intensity	12.006	1	12.006	2.121	.160
Error	118.864	21	5.660		

Estimated Marginal Means

1. Exercsie_Intensity

Measure: MEASURE_1

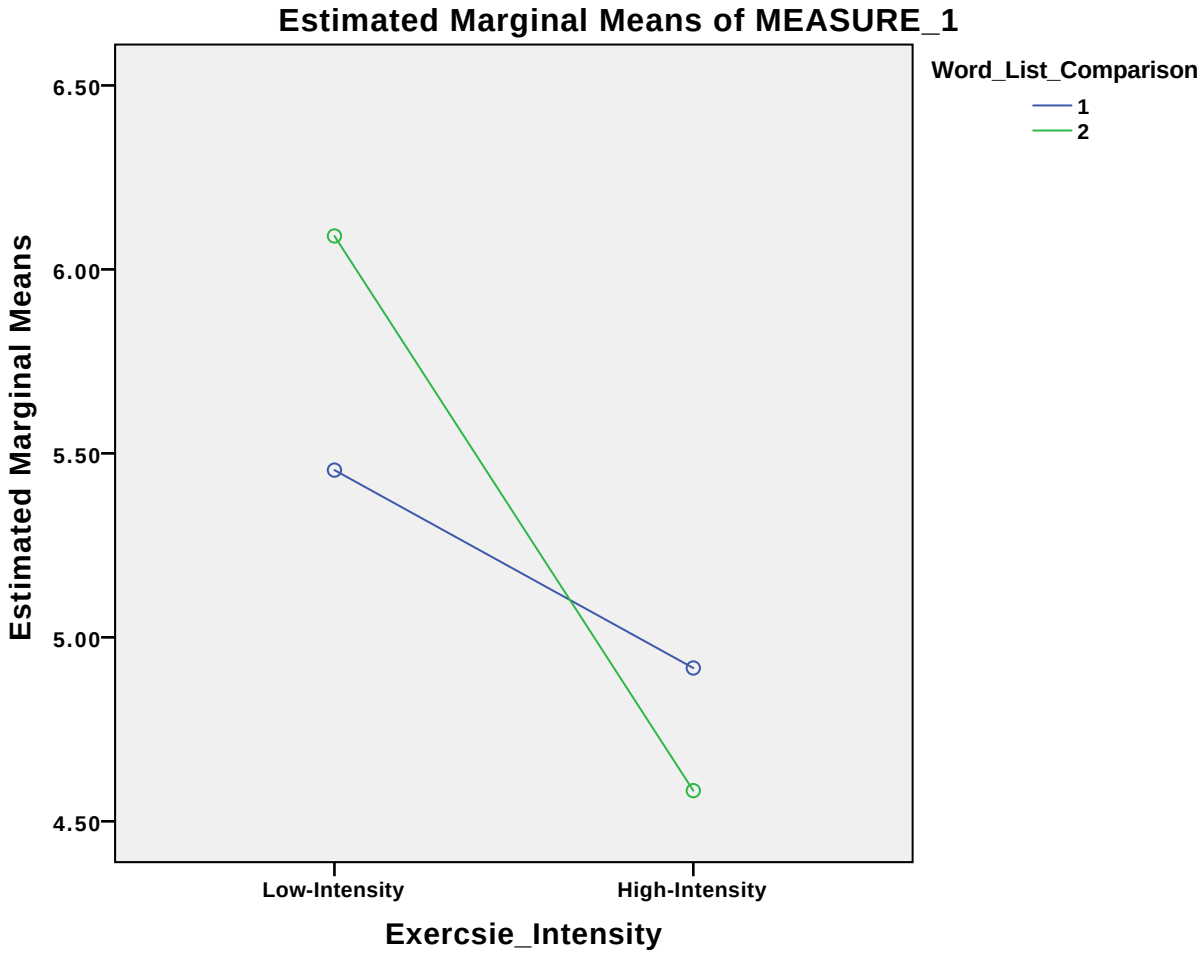
Exercsie_Intensity	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Low-Intensity	5.773	.507	4.718	6.828
High-Intensity	4.750	.486	3.740	5.760

2. Word_List_Comparison

Measure: MEASURE_1

Word_List_Comparison	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	5.186	.369	4.418	5.953
2	5.337	.427	4.449	6.225

Profile Plots


Estimated Marginal Means of MEASURE_1
Word_List_Comparison
1
2
Estimated Marginal Means
6.50
6.00
5.50
5.00
4.50
Low-Intensity
High-Intensity
Exercsie_Intensity