Analysis of Teton Grand Data

Name

Institution

Course

Professor

Date

Visualizing, Analyzing and Explaining Teton Grand Data

Outline

1. Create a comprehensive explanation of ways in which Teton Grand may be able to use probability statistics and sample concepts when analysing their data.
2. Be sure to define the concepts and use examples to highlight what they mean and how they might be relevant for Teton Grand.
3. Please be sure that you are posting in a client-ready format, using professional and appropriate language for talking to an organization.

Analysis of Teton Grand data

Introduction

In sampling a population or universe is defined as all items in an inquiry field while census inquiry is defined as a complete enumeration of all items in a population.

Definition of terms

- **Sampling error** – is a random variation in a sample estimate from the actual population parameters. Sampling error occurs equally and randomly – their nature can be of compensatory type and the expected value of such errors happens to be equal to zero. It can only be measured for a given sample design and size.
- **Measure of reliability** – is the steadiness of different measurement of the same thing
- **Standard error –** standard error's sample provides a quite accurate representation of a certain population, although sometimes it may produce means which are completely out of distribution tail – relatively far from the main mean. Therefore, standard error known for providing a definite method for measuring and defining

sampling – it measures the standard average between the population mean and the sample mean (Tian et al., 2007).

- **Probability sampling –** it is also referred to as chance sampling or random sampling. Random sampling has equal chances of inclusion. The gathered results from the probability or random sampling can be expressed in terms of probability – therefore it be very easy to estimate and measure significance or errors of the obtained results which bring about superiority in random sampling (Mardia, 2013).
- **Probability and distribution of a sampled mean**

Teton Grand variable definition

1. **Item 1(i1)** - The course helped me advance my understanding of animal health and welfare
2. **Item 2(i2)** - The people I was in class with cooperated to uphold Teton Grand's mission
3. **Item 3(i3)** - The course helped me advance my understanding of environmental health and welfare
4. I**tem 4(i4)** - Environmental preservation is one of Teton Grand's top priorities
5. **Item 5(i5**) - The instructors here are committed to a strong, effective education program
6. **Item 6(i6)** - I believe that what I am doing in my immersion course is important for the preservation of The Great Outdoors
7. **Item 7(i7)** - I understand the organization's mission statement and philosophy
8. **Item 8(i8)** - My instructor was effective in teaching the course material
9. **Item 9(i9)** - My instructor wanted me to have a good experience in the course
10. **Item 10(i10)** - I am enthusiastically committed to achieving our organization's objectives
11. **Item 11(i11)** - The rooms used for the training course were conducive to my learning
12. **Item 12(i12)** - The books used for the training course were conducive to my learning
13. **Item 13(i13)** - The immersion activities (i.e., animal learning excursions, park clean-ups) were conducive to my learning
14. **Item 14(i14)** - This organization is effective in implementing environmental change.
15. **Item 15(i15)** - I got regular feedback on how I was performing in the course

16. **Item 16(i16)** - I have been adequately trained to handle the different aspects of environmental preservation
17. **Item 17(i17)** - My instructor was timely and attentive
18. **Item 18(i18)** - My instructor showed a mastery of the course material.
19. **Item 19(i19)** - The course has advanced my appreciation of animal and environmental health and welfare
20. **Item 20(i20)** - This course gave me a sense of accomplishment
21. **B4(1)** – Monday
22. **B4 (2)** – Saturday

PART A

1. Monday

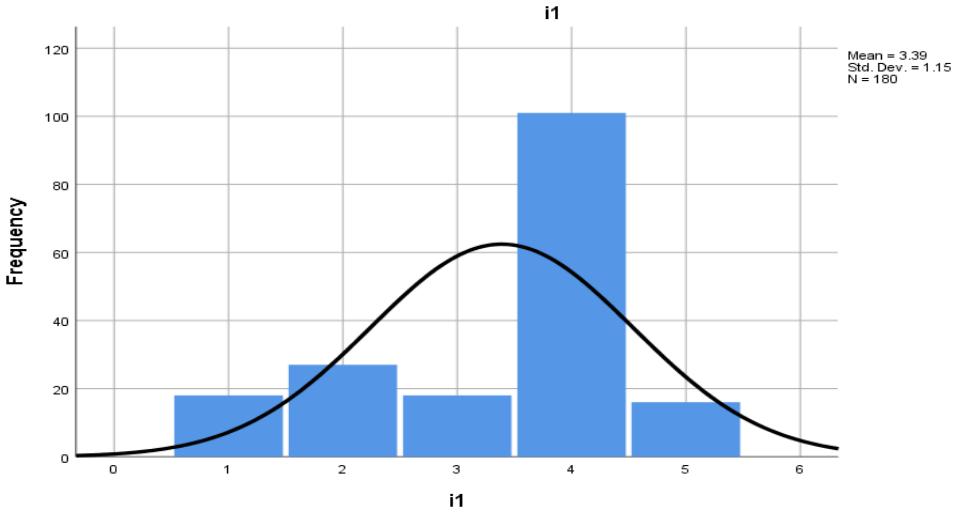
Statistics

		i1	i2	i3	i4	i5	i6	i7	i8	i9	i10	i11	i12	i13	i14	i15	i16	i17	i18	i19	i20
N	Valid	180	178	181	181	181	183	182	183	180	182	182	181	182	181	181	183	179	178	180	180
	Missing	5	7	4	4	4	2	3	2	5	3	3	4	3	4	4	2	6	7	5	5

a) Frequency

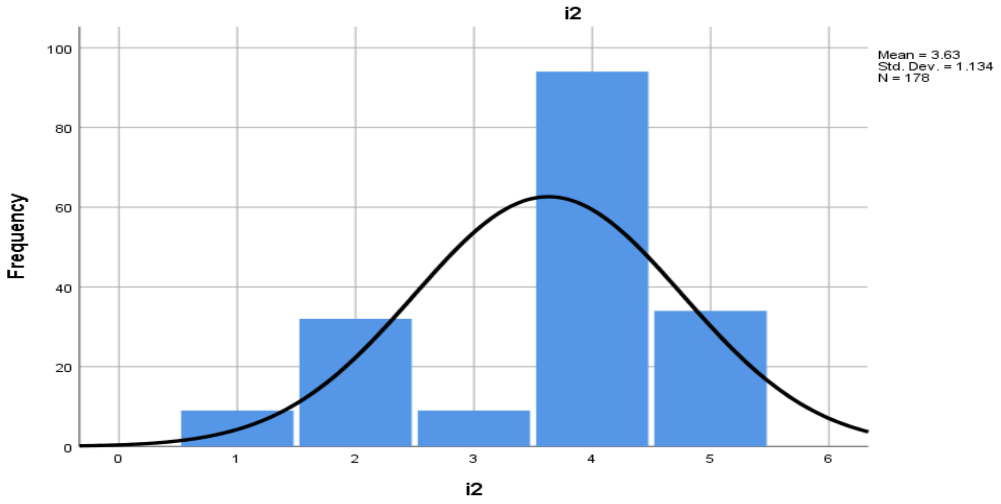
i1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	18	9.7	10.0	10.0
	2	27	14.6	15.0	25.0
	3	18	9.7	10.0	35.0
	4	101	54.6	56.1	91.1
	5	16	8.6	8.9	100.0
	Total	180	97.3	100.0	
Missing	System	5	2.7		
Total		185	100.0		



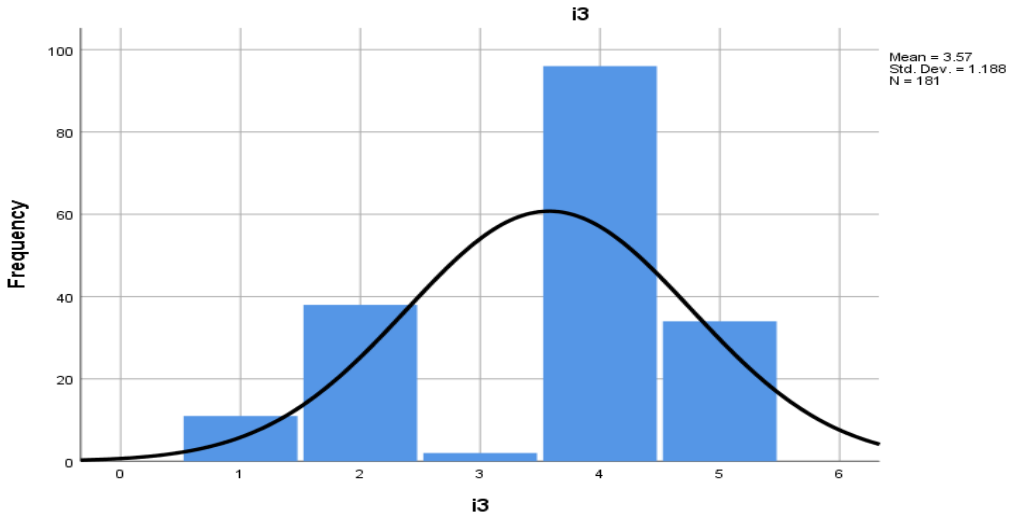
i2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	9	4.9	5.1	5.1
	2	32	17.3	18.0	23.0
	3	9	4.9	5.1	28.1
	4	94	50.8	52.8	80.9
	5	34	18.4	19.1	100.0
	Total	178	96.2	100.0	
Missing	System	7	3.8		
Total		185	100.0		



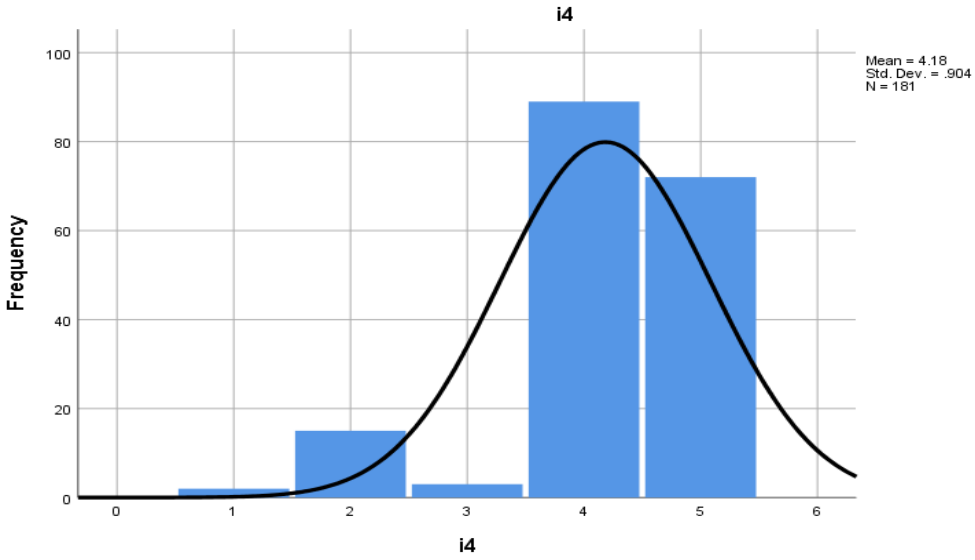
i3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	11	5.9	6.1	6.1
	2	38	20.5	21.0	27.1
	3	2	1.1	1.1	28.2
	4	96	51.9	53.0	81.2
	5	34	18.4	18.8	100.0
	Total	181	97.8	100.0	
Missing	System	4	2.2		
Total		185	100.0		



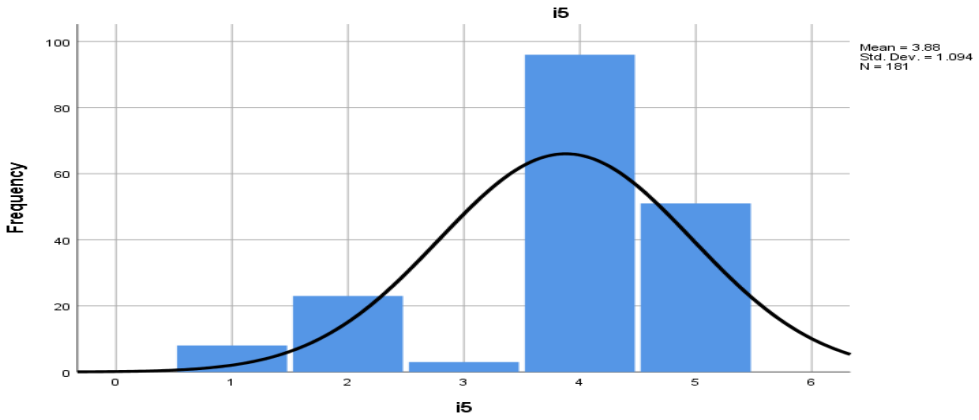
i4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	1.1	1.1	1.1
	2	15	8.1	8.3	9.4
	3	3	1.6	1.7	11.0
	4	89	48.1	49.2	60.2
	5	72	38.9	39.8	100.0
	Total	181	97.8	100.0	
Missing	System	4	2.2		
Total		185	100.0		



i5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	8	4.3	4.4	4.4
	2	23	12.4	12.7	17.1
	3	3	1.6	1.7	18.8
	4	96	51.9	53.0	71.8
	5	51	27.6	28.2	100.0
	Total	181	97.8	100.0	
Missing	System	4	2.2		
Total		185	100.0		

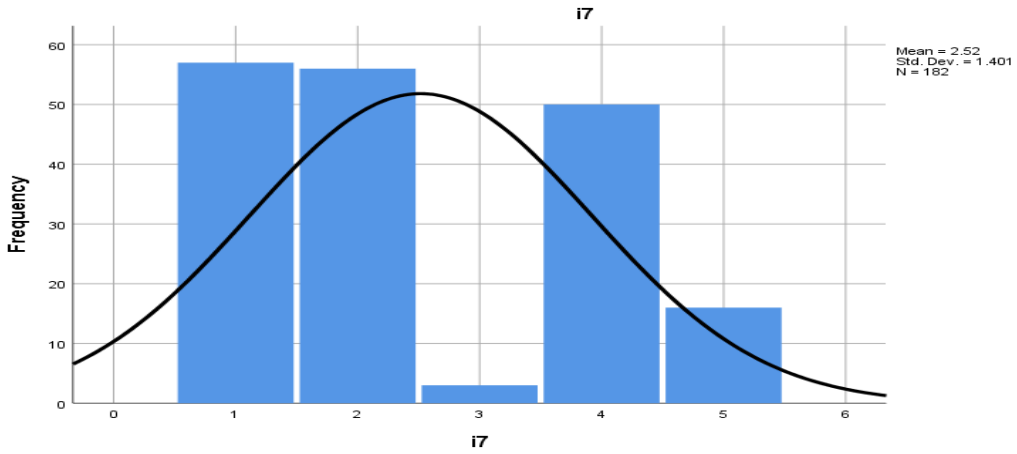


i6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	7	3.8	3.8	3.8
	2	11	5.9	6.0	9.8
	3	3	1.6	1.6	11.5
	4	88	47.6	48.1	59.6
	5	74	40.0	40.4	100.0
	Total	183	98.9	100.0	
Missing	System	2	1.1		
Total		185	100.0		

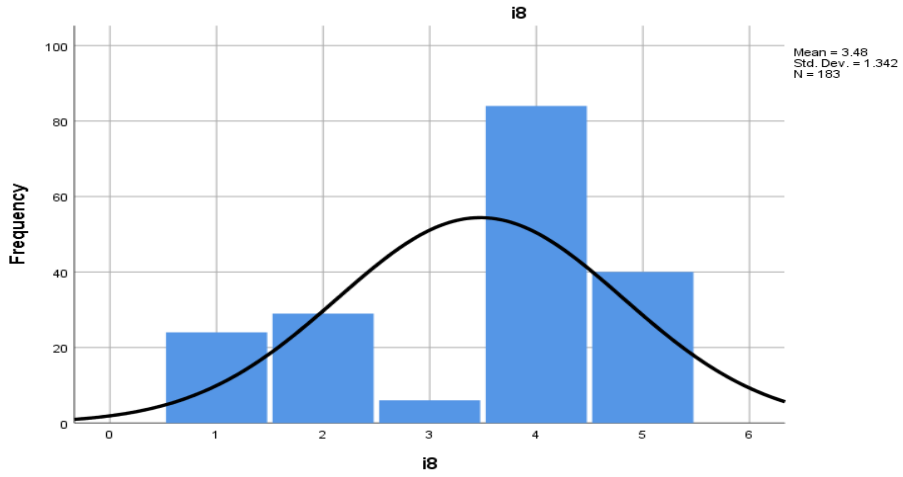
i7

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	57	30.8	31.3	31.3
	2	56	30.3	30.8	62.1
	3	3	1.6	1.6	63.7
	4	50	27.0	27.5	91.2
	5	16	8.6	8.8	100.0
	Total	182	98.4	100.0	
Missing	System	3	1.6		
Total		185	100.0		



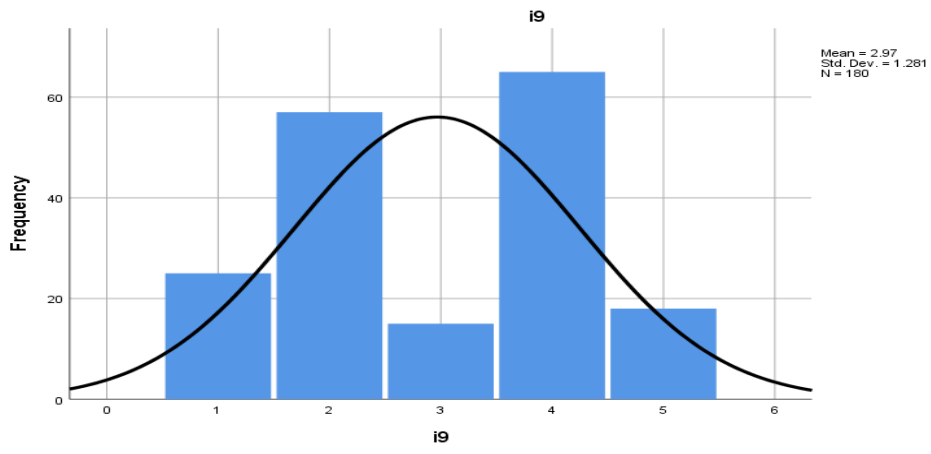
i8

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	24	13.0	13.1	13.1
	2	29	15.7	15.8	29.0
	3	6	3.2	3.3	32.2
	4	84	45.4	45.9	78.1
	5	40	21.6	21.9	100.0
	Total	183	98.9	100.0	
Missing	System	2	1.1		
Total		185	100.0		



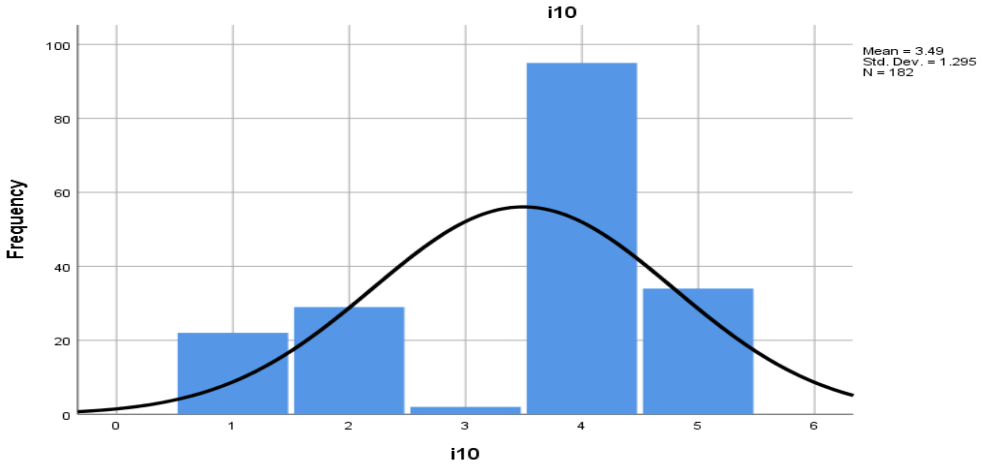
i9

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	25	13.5	13.9	13.9
	2	57	30.8	31.7	45.6
	3	15	8.1	8.3	53.9
	4	65	35.1	36.1	90.0
	5	18	9.7	10.0	100.0
	Total	180	97.3	100.0	
Missing	System	5	2.7		
Total		185	100.0		



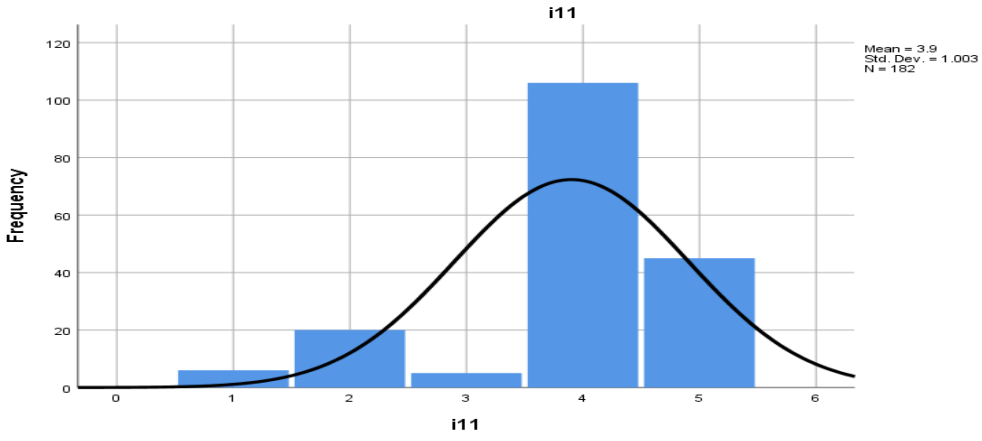
i10

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	22	11.9	12.1	12.1
	2	29	15.7	15.9	28.0
	3	2	1.1	1.1	29.1
	4	95	51.4	52.2	81.3
	5	34	18.4	18.7	100.0
	Total	182	98.4	100.0	
Missing	System	3	1.6		
Total		185	100.0		



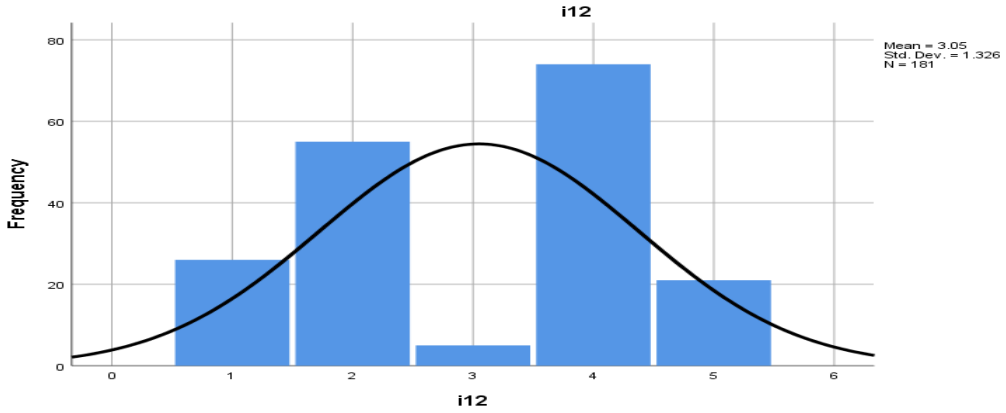
i11

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	6	3.2	3.3	3.3
	2	20	10.8	11.0	14.3
	3	5	2.7	2.7	17.0
	4	106	57.3	58.2	75.3
	5	45	24.3	24.7	100.0
	Total	182	98.4	100.0	
Missing	System	3	1.6		
Total		185	100.0		



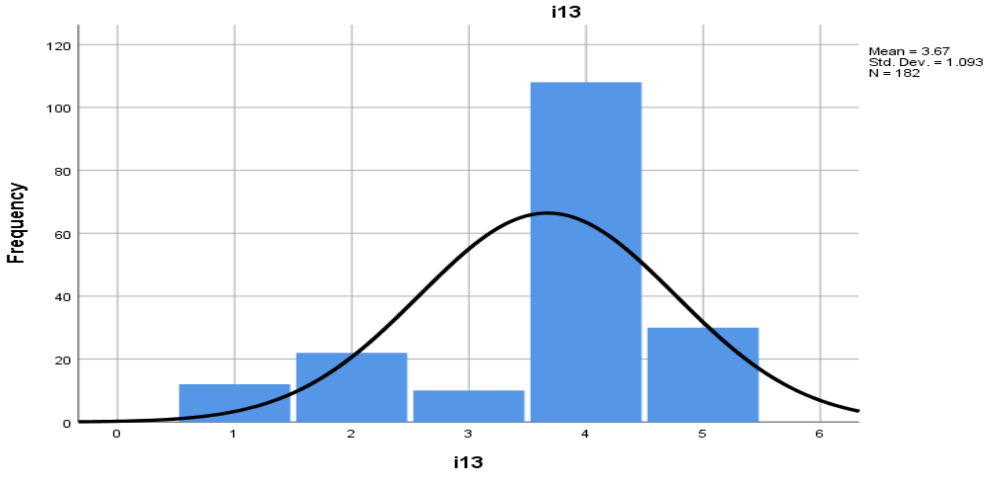
i12

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	26	14.1	14.4	14.4
	2	55	29.7	30.4	44.8
	3	5	2.7	2.8	47.5
	4	74	40.0	40.9	88.4
	5	21	11.4	11.6	100.0
	Total	181	97.8	100.0	
Missing	System	4	2.2		
Total		185	100.0		



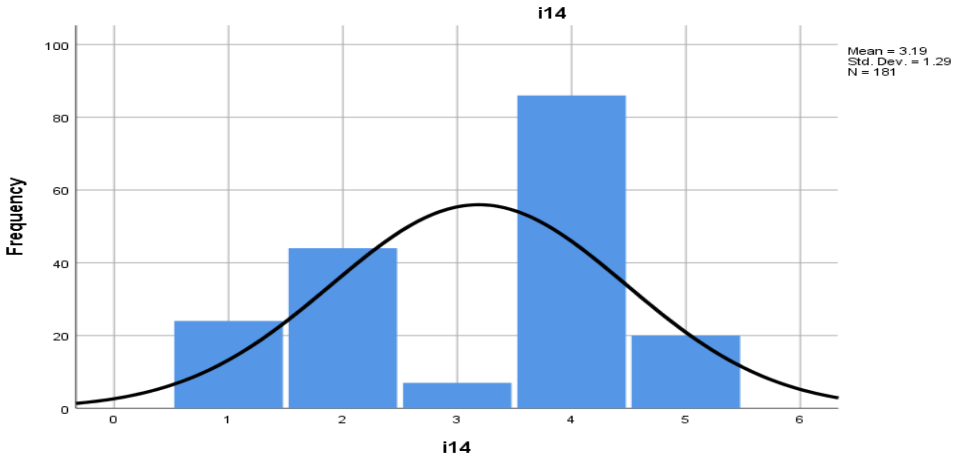
i13

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	12	6.5	6.6	6.6
	2	22	11.9	12.1	18.7
	3	10	5.4	5.5	24.2
	4	108	58.4	59.3	83.5
	5	30	16.2	16.5	100.0
	Total	182	98.4	100.0	
Missing	System	3	1.6		
Total		185	100.0		



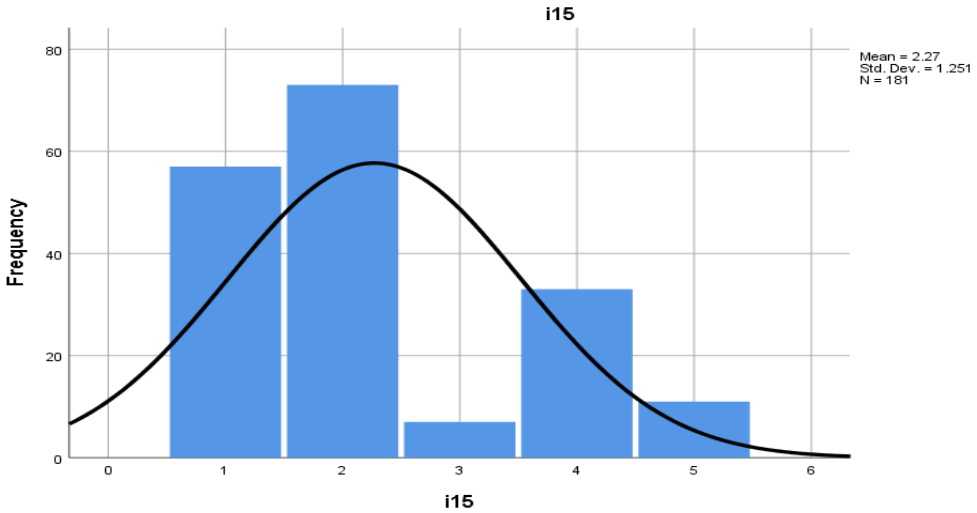
i14

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	24	13.0	13.3	13.3
	2	44	23.8	24.3	37.6
	3	7	3.8	3.9	41.4
	4	86	46.5	47.5	89.0
	5	20	10.8	11.0	100.0
	Total	181	97.8	100.0	
Missing	System	4	2.2		
Total		185	100.0		



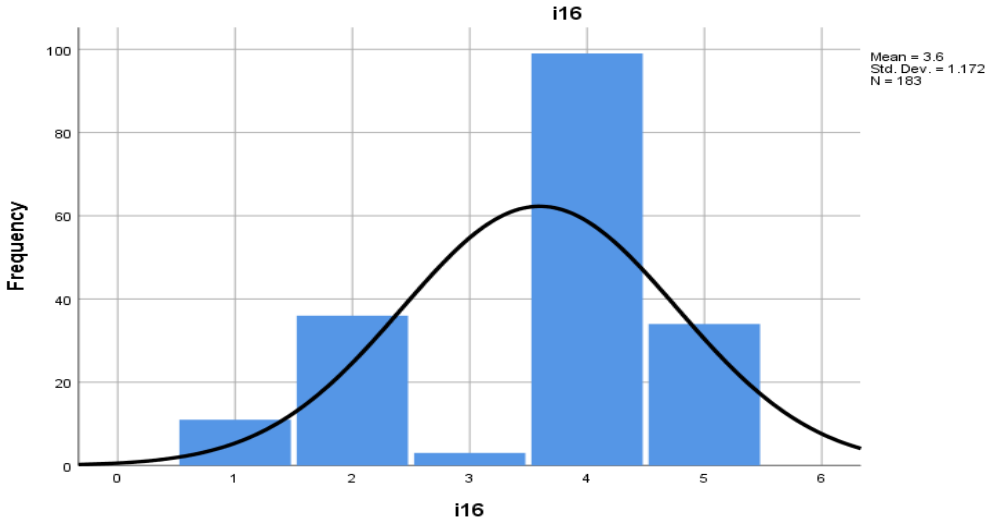
i15

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	57	30.8	31.5	31.5
	2	73	39.5	40.3	71.8
	3	7	3.8	3.9	75.7
	4	33	17.8	18.2	93.9
	5	11	5.9	6.1	100.0
	Total	181	97.8	100.0	
Missing	System	4	2.2		
Total		185	100.0		



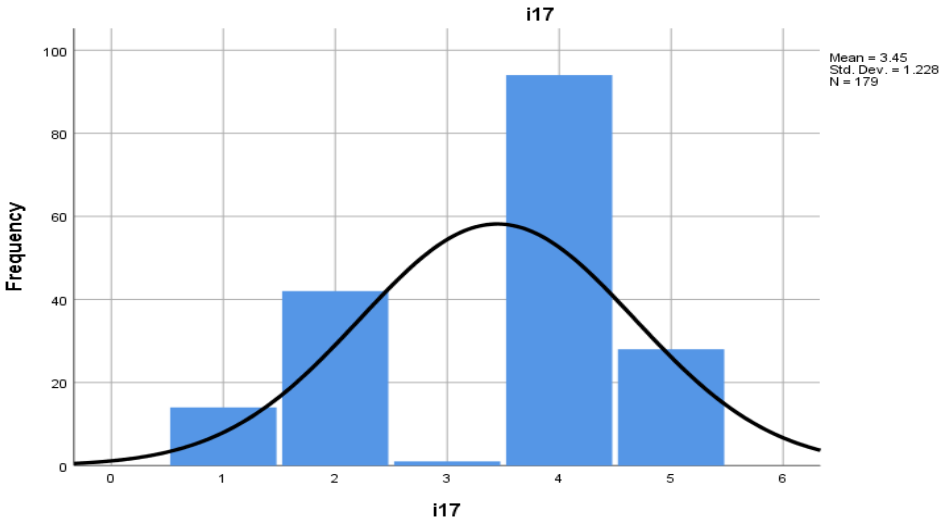
i16

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	11	5.9	6.0	6.0
	2	36	19.5	19.7	25.7
	3	3	1.6	1.6	27.3
	4	99	53.5	54.1	81.4
	5	34	18.4	18.6	100.0
	Total	183	98.9	100.0	
Missing	System	2	1.1		
Total		185	100.0		



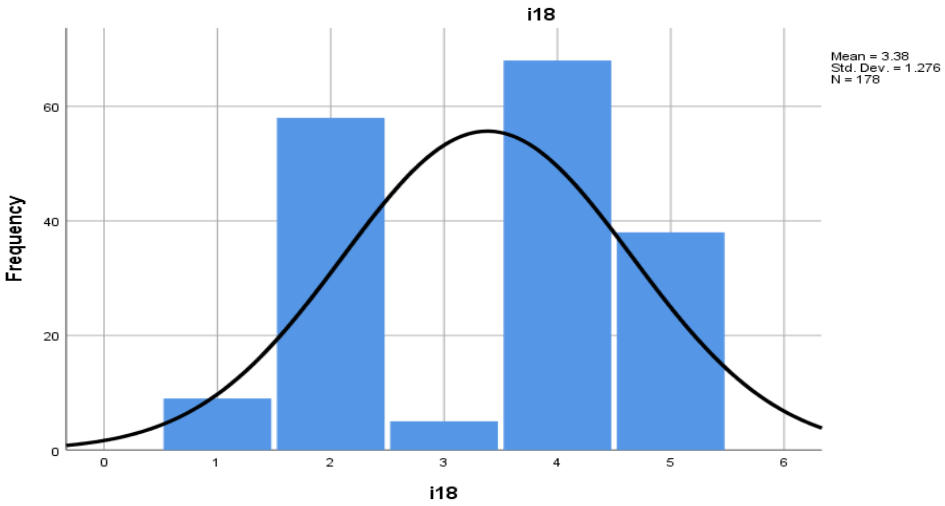
i17

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	14	7.6	7.8	7.8
	2	42	22.7	23.5	31.3
	3	1	.5	.6	31.8
	4	94	50.8	52.5	84.4
	5	28	15.1	15.6	100.0
	Total	179	96.8	100.0	
Missing	System	6	3.2		
Total		185	100.0		



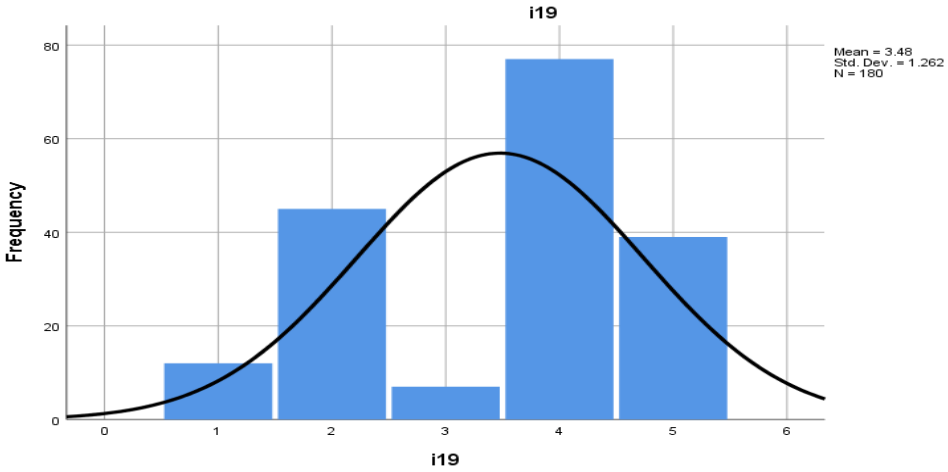
i18

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	9	4.9	5.1	5.1
	2	58	31.4	32.6	37.6
	3	5	2.7	2.8	40.4
	4	68	36.8	38.2	78.7
	5	38	20.5	21.3	100.0
	Total	178	96.2	100.0	
Missing	System	7	3.8		
Total		185	100.0		



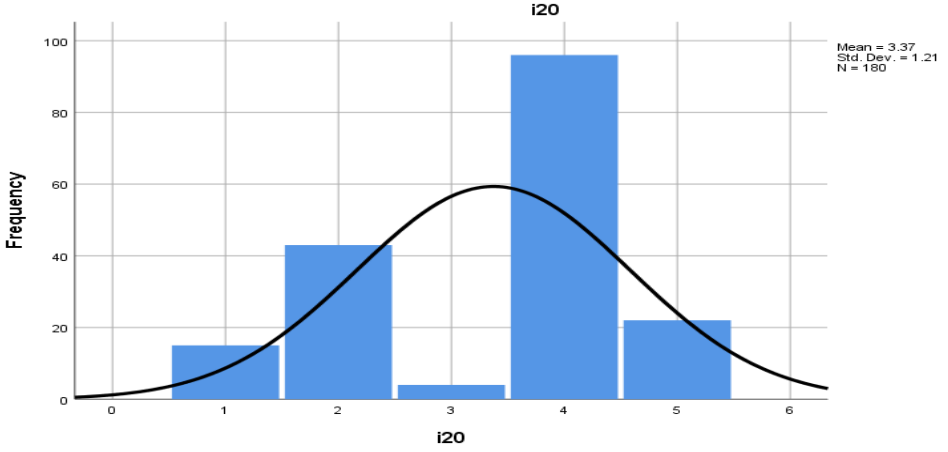
i19

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	12	6.5	6.7	6.7
	2	45	24.3	25.0	31.7
	3	7	3.8	3.9	35.6
	4	77	41.6	42.8	78.3
	5	39	21.1	21.7	100.0
	Total	180	97.3	100.0	
Missing	System	5	2.7		
Total		185	100.0		



i20

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	15	8.1	8.3	8.3
	2	43	23.2	23.9	32.2
	3	4	2.2	2.2	34.4
	4	96	51.9	53.3	87.8
	5	22	11.9	12.2	100.0
	Total	180	97.3	100.0	
Missing	System	5	2.7		
Total		185	100.0		



b) Saturday

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FREQUENCIES VARIABLES=i1 i2 i3 i4 i5 i6 i7 i8 i9 i10 i11 i12 i13 i14 i15 i16
i17 i18 i19 i20
  /HISTOGRAM NORMAL
  /ORDER=ANALYSIS.
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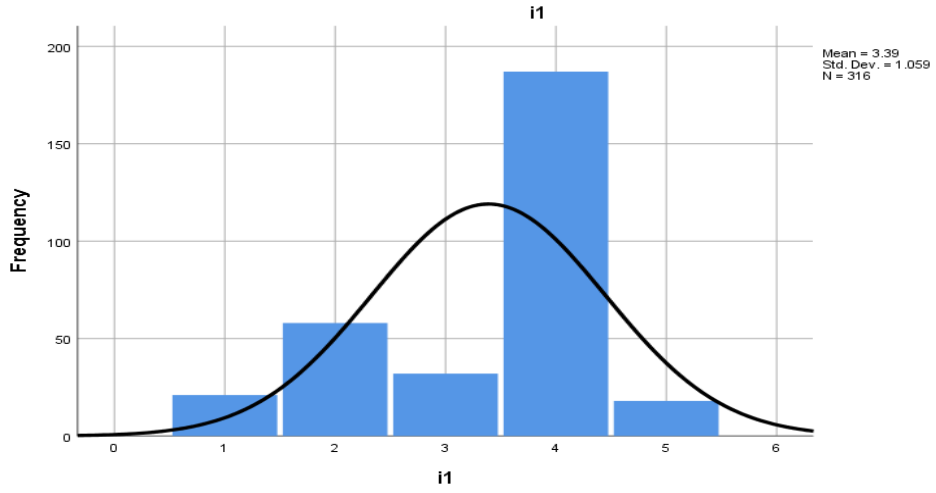
Frequency distribution

Statistics

		i1	i2	i3	i4	i5	i6	i7	i8	i9	i10	i11	i12	i13	i14	i15	i16	i17	i18	i19	i20
N	Valid	316	315	314	315	315	315	315	316	316	314	315	316	315	316	314	315	315	315	314	314
	Missing	0	1	2	1	1	1	1	0	0	2	1	0	1	0	2	1	1	1	2	2

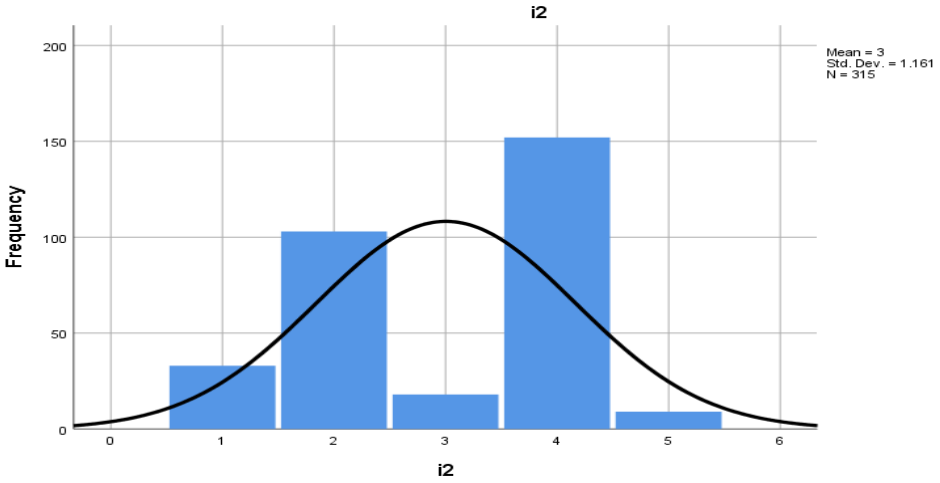
i1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	21	6.6	6.6	6.6
	2	58	18.4	18.4	25.0
	3	32	10.1	10.1	35.1
	4	187	59.2	59.2	94.3
	5	18	5.7	5.7	100.0
	Total	316	100.0	100.0	



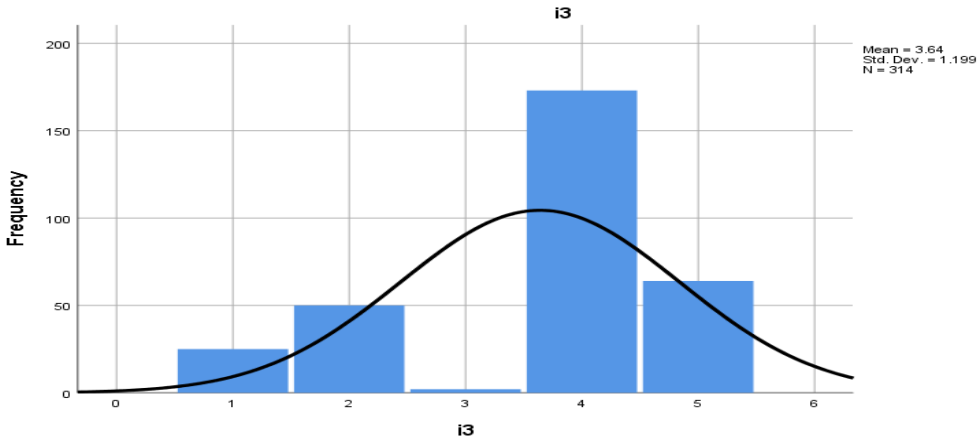
i2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	33	10.4	10.5	10.5
	2	103	32.6	32.7	43.2
	3	18	5.7	5.7	48.9
	4	152	48.1	48.3	97.1
	5	9	2.8	2.9	100.0
	Total	315	99.7	100.0	
Missing	System	1	.3		
Total		316	100.0		



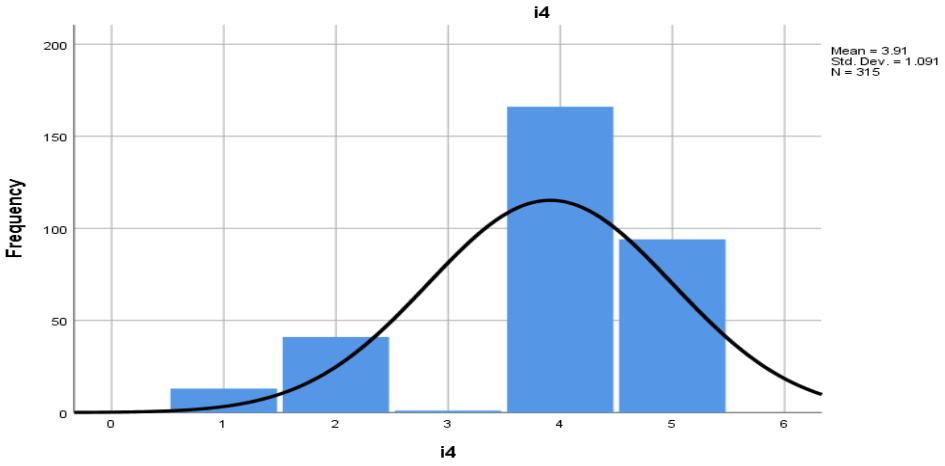
i3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	25	7.9	8.0	8.0
	2	50	15.8	15.9	23.9
	3	2	.6	.6	24.5
	4	173	54.7	55.1	79.6
	5	64	20.3	20.4	100.0
	Total	314	99.4	100.0	
Missing	System	2	.6		
Total		316	100.0		



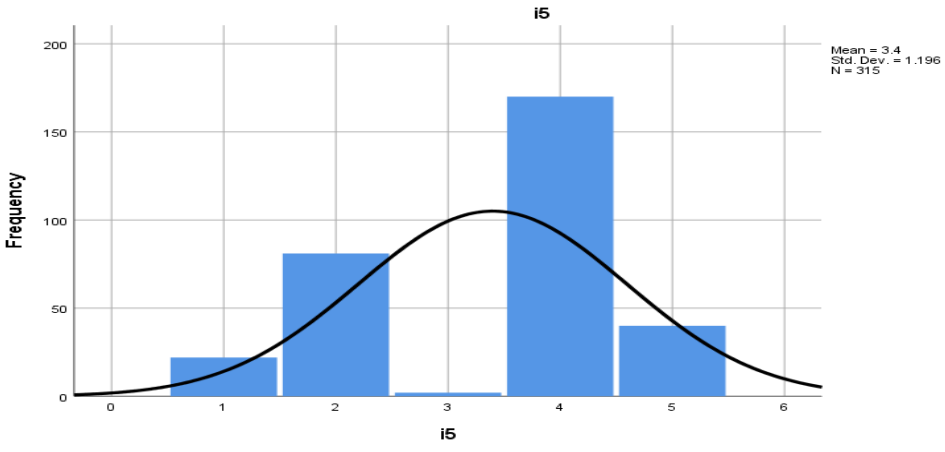
i4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	13	4.1	4.1	4.1
	2	41	13.0	13.0	17.1
	3	1	.3	.3	17.5
	4	166	52.5	52.7	70.2
	5	94	29.7	29.8	100.0
	Total	315	99.7	100.0	
Missing	System	1	.3		
Total		316	100.0		



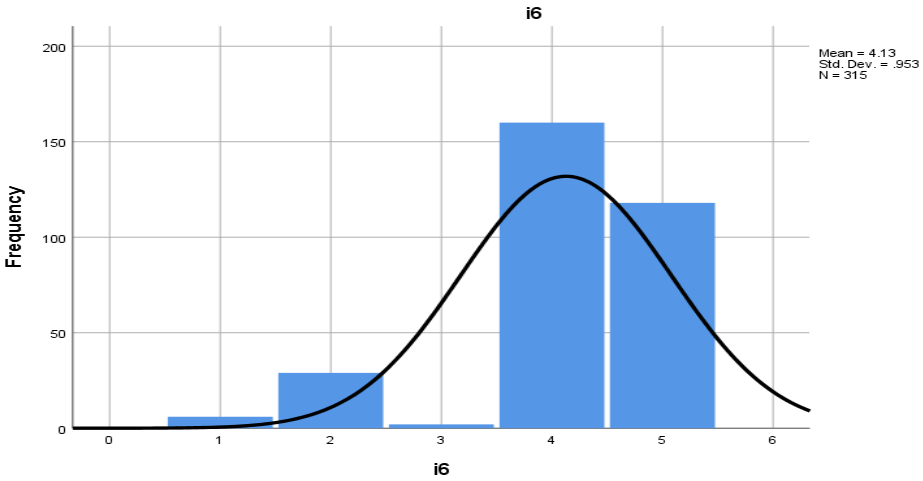
i5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	22	7.0	7.0	7.0
	2	81	25.6	25.7	32.7
	3	2	.6	.6	33.3
	4	170	53.8	54.0	87.3
	5	40	12.7	12.7	100.0
	Total	315	99.7	100.0	
Missing	System	1	.3		
Total		316	100.0		



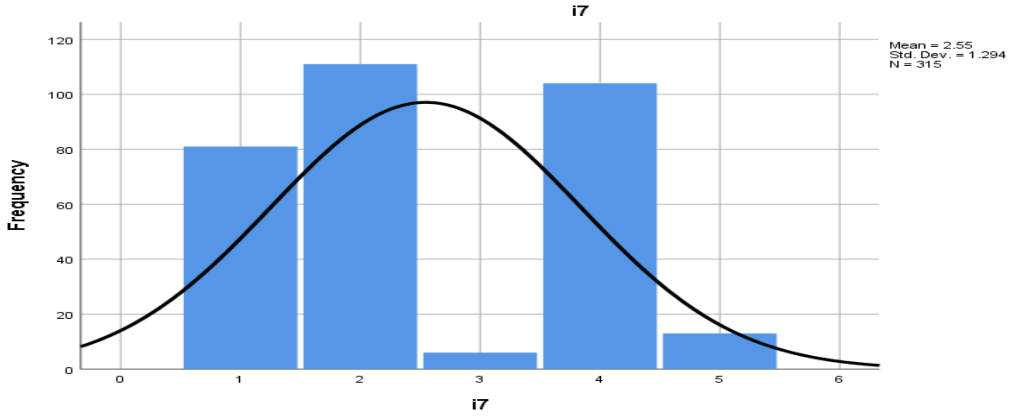
i6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	6	1.9	1.9	1.9
	2	29	9.2	9.2	11.1
	3	2	.6	.6	11.7
	4	160	50.6	50.8	62.5
	5	118	37.3	37.5	100.0
	Total	315	99.7	100.0	
Missing	System	1	.3		
Total		316	100.0		



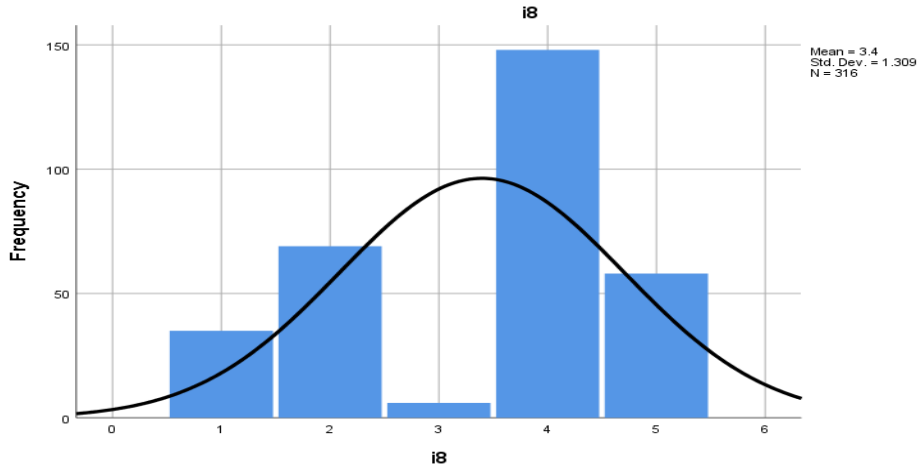
i7

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	81	25.6	25.7	25.7
	2	111	35.1	35.2	61.0
	3	6	1.9	1.9	62.9
	4	104	32.9	33.0	95.9
	5	13	4.1	4.1	100.0
	Total	315	99.7	100.0	
Missing	System	1	.3		
Total		316	100.0		



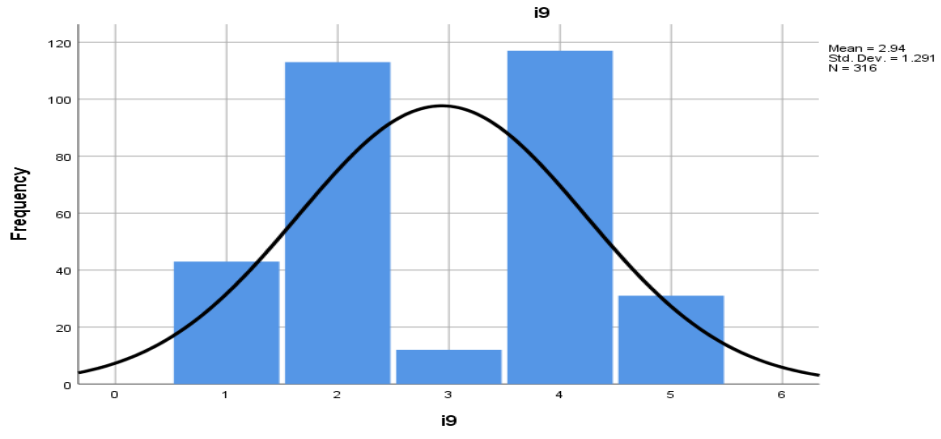
i8

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	35	11.1	11.1	11.1
	2	69	21.8	21.8	32.9
	3	6	1.9	1.9	34.8
	4	148	46.8	46.8	81.6
	5	58	18.4	18.4	100.0
	Total	316	100.0	100.0	



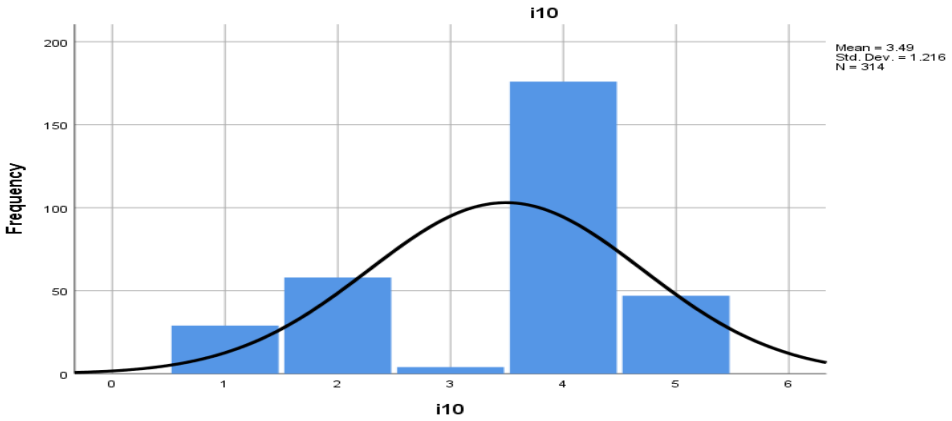
i9

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	43	13.6	13.6	13.6
	2	113	35.8	35.8	49.4
	3	12	3.8	3.8	53.2
	4	117	37.0	37.0	90.2
	5	31	9.8	9.8	100.0
	Total	316	100.0	100.0	



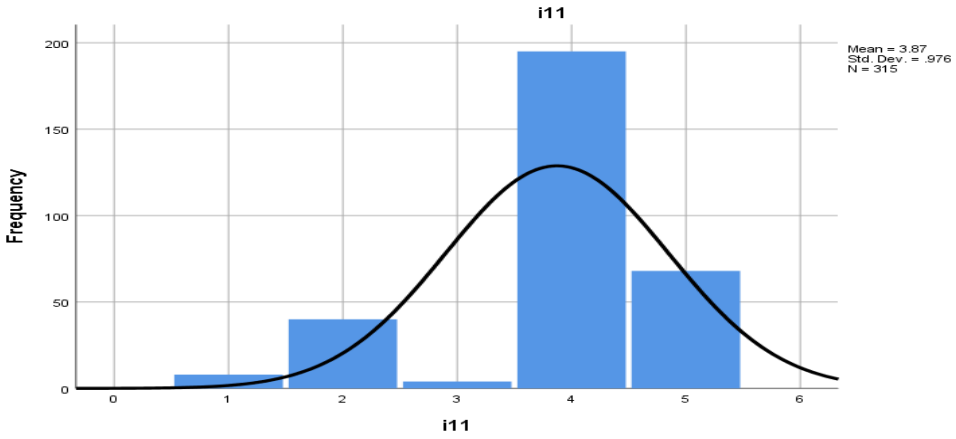
i10

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	29	9.2	9.2	9.2
	2	58	18.4	18.5	27.7
	3	4	1.3	1.3	29.0
	4	176	55.7	56.1	85.0
	5	47	14.9	15.0	100.0
	Total	314	99.4	100.0	
Missing	System	2	.6		
Total		316	100.0		



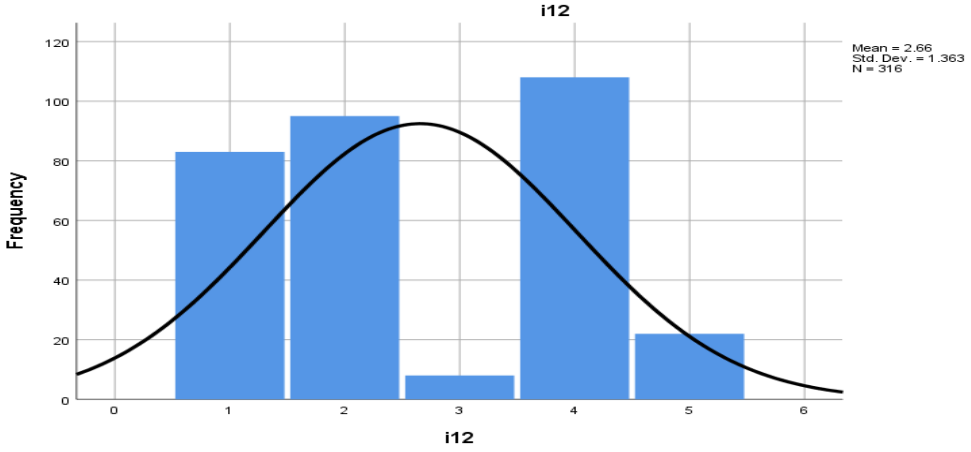
i11

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	8	2.5	2.5	2.5
	2	40	12.7	12.7	15.2
	3	4	1.3	1.3	16.5
	4	195	61.7	61.9	78.4
	5	68	21.5	21.6	100.0
	Total	315	99.7	100.0	
Missing	System	1	.3		
Total		316	100.0		



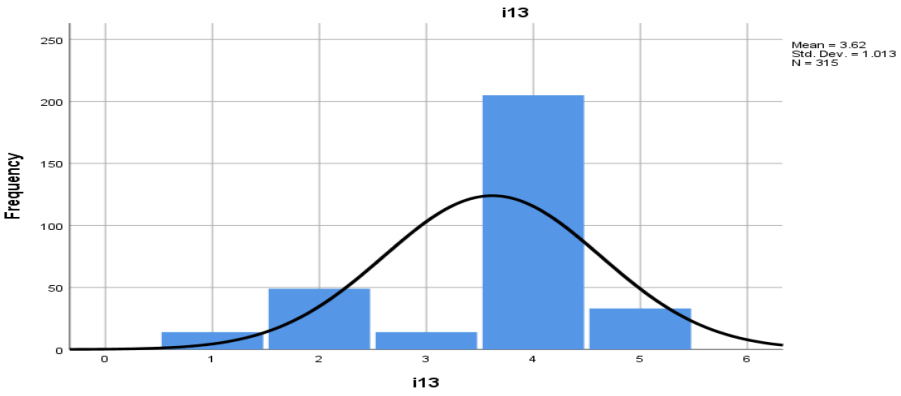
i12

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	83	26.3	26.3	26.3
	2	95	30.1	30.1	56.3
	3	8	2.5	2.5	58.9
	4	108	34.2	34.2	93.0
	5	22	7.0	7.0	100.0
	Total	316	100.0	100.0	



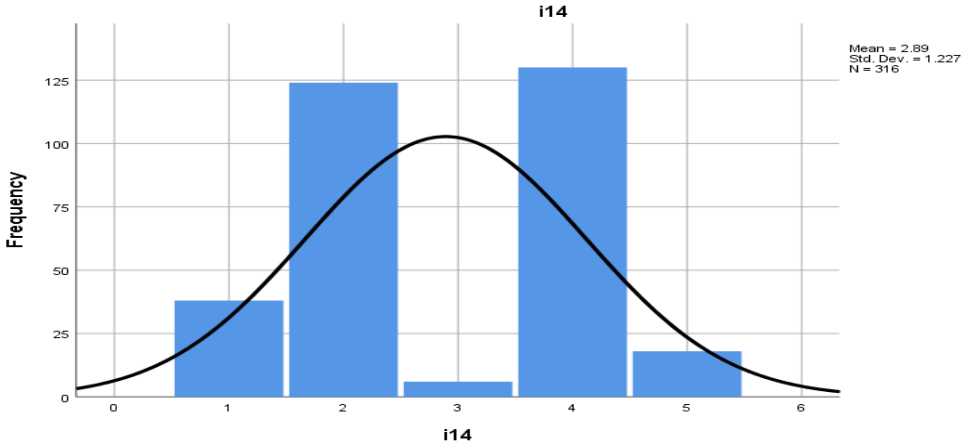
i13

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	14	4.4	4.4	4.4
	2	49	15.5	15.6	20.0
	3	14	4.4	4.4	24.4
	4	205	64.9	65.1	89.5
	5	33	10.4	10.5	100.0
	Total	315	99.7	100.0	
Missing	System	1	.3		
Total		316	100.0		



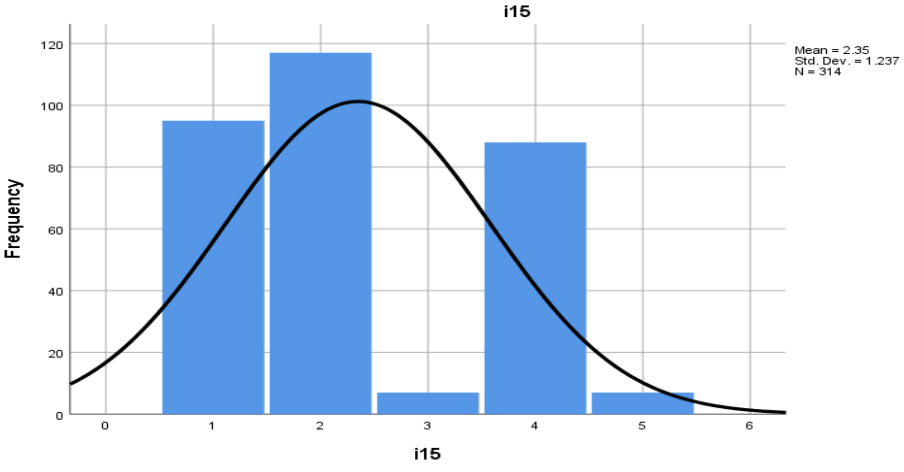
i14

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	38	12.0	12.0	12.0
	2	124	39.2	39.2	51.3
	3	6	1.9	1.9	53.2
	4	130	41.1	41.1	94.3
	5	18	5.7	5.7	100.0
	Total	316	100.0	100.0	



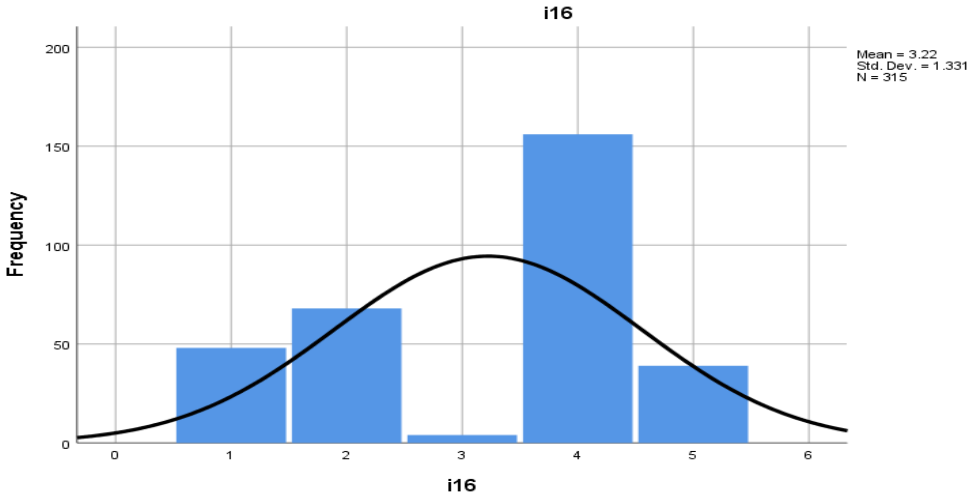
i15

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	95	30.1	30.3	30.3
	2	117	37.0	37.3	67.5
	3	7	2.2	2.2	69.7
	4	88	27.8	28.0	97.8
	5	7	2.2	2.2	100.0
	Total	314	99.4	100.0	
Missing	System	2	.6		
Total		316	100.0		



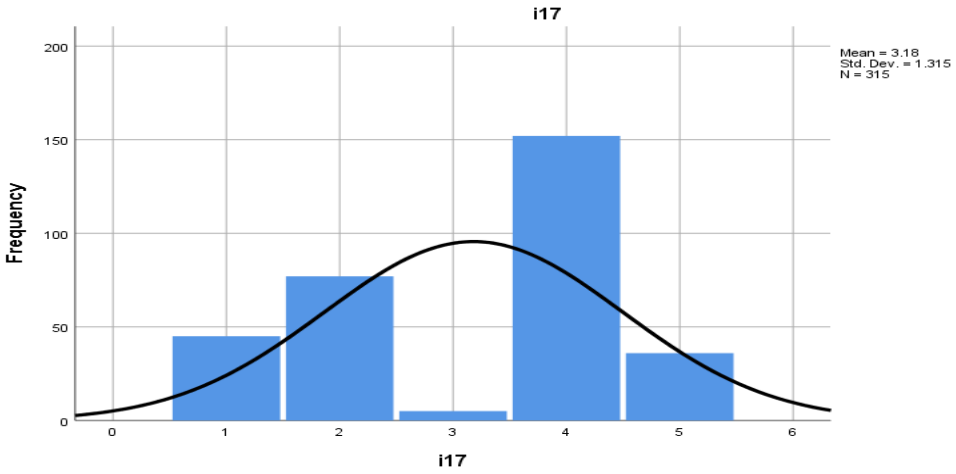
i16

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	48	15.2	15.2	15.2
	2	68	21.5	21.6	36.8
	3	4	1.3	1.3	38.1
	4	156	49.4	49.5	87.6
	5	39	12.3	12.4	100.0
	Total	315	99.7	100.0	
Missing	System	1	.3		
Total		316	100.0		



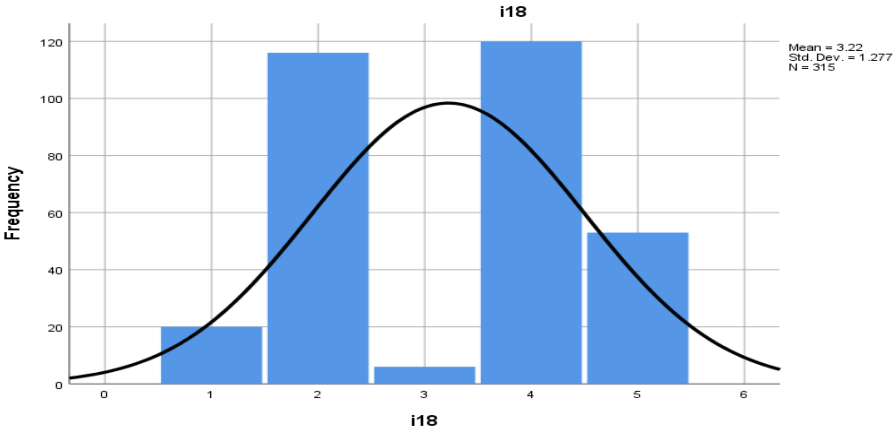
i17

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	45	14.2	14.3	14.3
	2	77	24.4	24.4	38.7
	3	5	1.6	1.6	40.3
	4	152	48.1	48.3	88.6
	5	36	11.4	11.4	100.0
	Total	315	99.7	100.0	
Missing	System	1	.3		
Total		316	100.0		



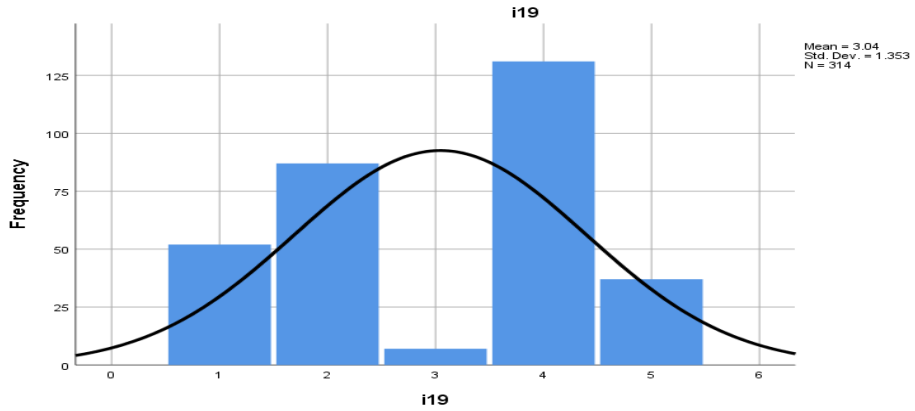
i18

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	20	6.3	6.3	6.3
	2	116	36.7	36.8	43.2
	3	6	1.9	1.9	45.1
	4	120	38.0	38.1	83.2
	5	53	16.8	16.8	100.0
	Total	315	99.7	100.0	
Missing	System	1	.3		
Total		316	100.0		



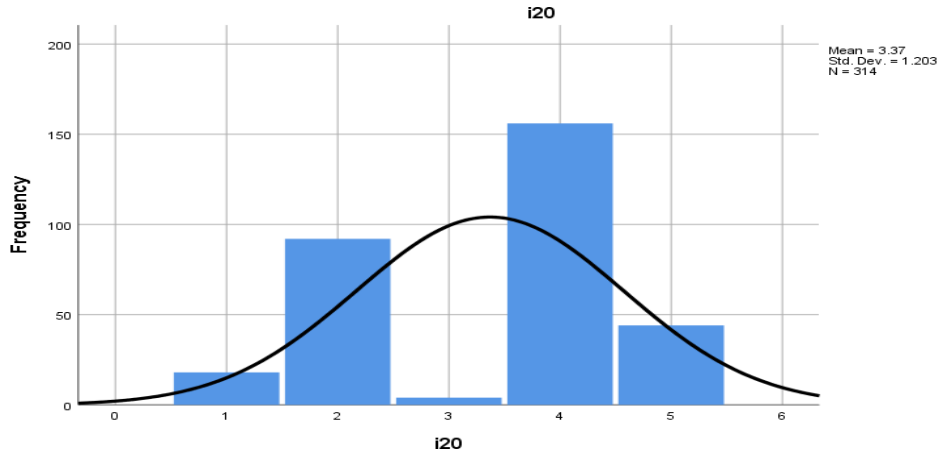
i19

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	52	16.5	16.6	16.6
	2	87	27.5	27.7	44.3
	3	7	2.2	2.2	46.5
	4	131	41.5	41.7	88.2
	5	37	11.7	11.8	100.0
	Total	314	99.4	100.0	
Missing	System	2	.6		
Total		316	100.0		



i20

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	18	5.7	5.7	5.7
	2	92	29.1	29.3	35.0
	3	4	1.3	1.3	36.3
	4	156	49.4	49.7	86.0
	5	44	13.9	14.0	100.0
	Total	314	99.4	100.0	
Missing	System	2	.6		
Total		316	100.0		



PART B

1) Z-SCORE PROPERTY VISUALIZATION AND ANALYSIS

1. Monday

a) Descriptive

```
DESCRIPTIVES VARIABLES=Zfinalscore
```

```
/SAVE
/STATISTICS=MEAN STDDEV VARIANCE RANGE SEMEAN
KURTOSIS SKEWNESS.
```

Descriptive Statistics

	N	Range	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Zscore(finalscore)	185	8.15733	.0000000	.07352146	1.00000000	1.000	-1.713	.179	9.709	.355
Valid N (listwise)	185									

b) Frequencies

```
FREQUENCIES VARIABLES=Zfinalscore
/ORDER=ANALYSIS.
```

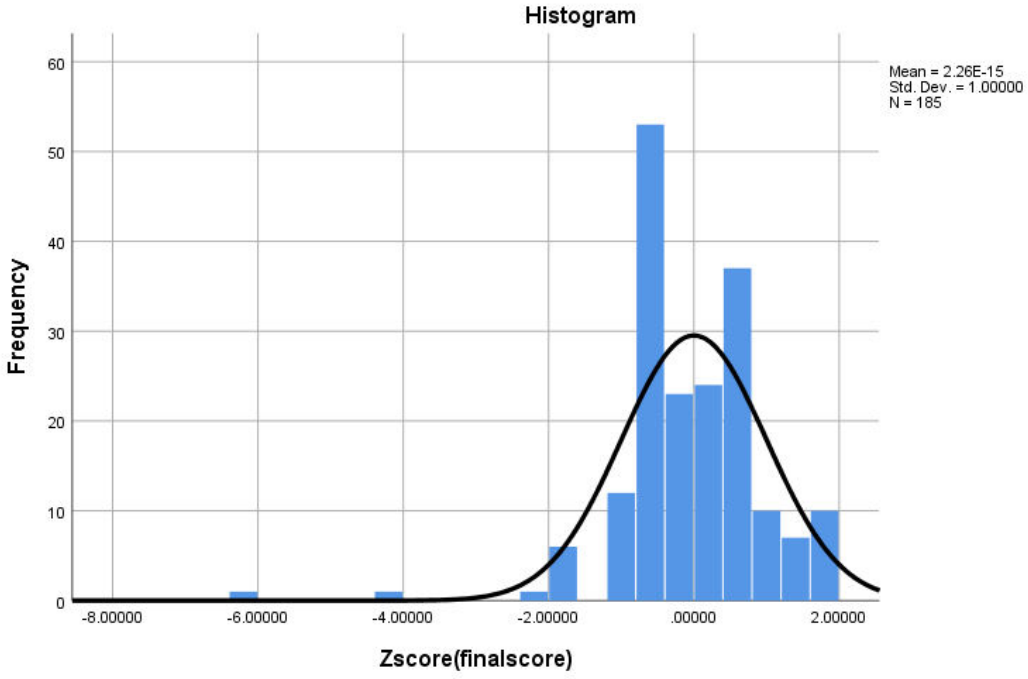
Statistics

Zscore(finalscore)

N	Valid	185
	Missing	0

Zscore(finalscore)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-6.39108	1	.5	.5	.5
	-4.35175	1	.5	.5	1.1
	-2.03432	1	.5	.5	1.6
	-1.94163	3	1.6	1.6	3.2
	-1.75623	3	1.6	1.6	4.9
	-1.01466	4	2.2	2.2	7.0
	-.92196	4	2.2	2.2	9.2
	-.82926	4	2.2	2.2	11.4
	-.73657	4	2.2	2.2	13.5
	-.64387	4	2.2	2.2	15.7
	-.55117	25	13.5	13.5	29.2
	-.45847	20	10.8	10.8	40.0
	-.36578	2	1.1	1.1	41.1
	-.08769	21	11.4	11.4	52.4
	.00501	8	4.3	4.3	56.8
	.09771	8	4.3	4.3	61.1
	.19040	1	.5	.5	61.6
	.28310	3	1.6	1.6	63.2
	.37580	4	2.2	2.2	65.4
	.56119	5	2.7	2.7	68.1
	.65389	12	6.5	6.5	74.6
	.74659	20	10.8	10.8	85.4
	.83928	7	3.8	3.8	89.2
	1.11737	3	1.6	1.6	90.8
	1.21007	1	.5	.5	91.4
	1.58086	6	3.2	3.2	94.6
	1.67356	6	3.2	3.2	97.8
	1.76625	4	2.2	2.2	100.0
	Total	185	100.0	100.0	



2. Saturday

a) Descriptive

```
DESCRIPTIVES VARIABLES=Zfinalscore
  /SAVE
/STATISTICS=MEAN STDDEV VARIANCE RANGE SEMEAN KURTOSIS
SKEWNESS.
```

Descriptive Statistics

	N	Range	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Zscore(finalscore)	316	6.97210	.0000000	.05625440	1.00000000	1.000	-2.570	.137	10.577	.273
Valid N (listwise)	316									

b) Frequency

```
DATASET ACTIVATE DataSet3.
FREQUENCIES VARIABLES=Zfinalscore
/HISTOGRAM NORMAL
/ORDER=ANALYSIS.
```

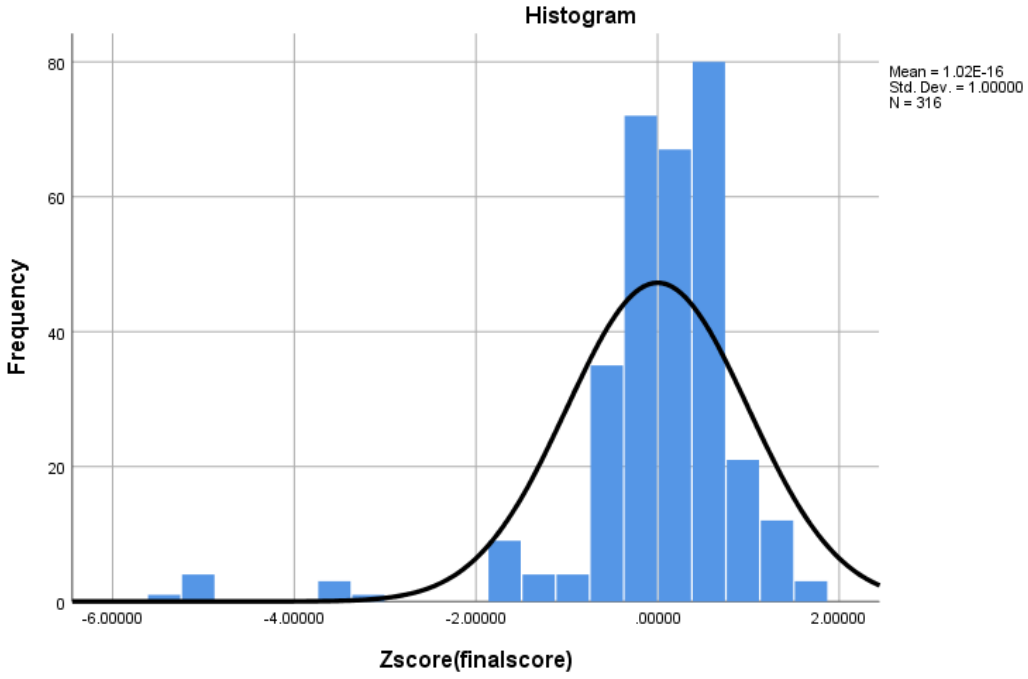
Statistics

Zscore(finalscore)

N	Valid	316
	Missing	0

Zscore(finalscore)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-5.43239	1	.3	.3	.3
	-5.13252	1	.3	.3	.6
	-5.05755	3	.9	.9	1.6
	-3.40824	3	.9	.9	2.5
	-3.10836	1	.3	.3	2.8
	-1.68395	1	.3	.3	3.2
	-1.60898	1	.3	.3	3.5
	-1.53401	7	2.2	2.2	5.7
	-1.45905	4	1.3	1.3	7.0
	-.93426	4	1.3	1.3	8.2
	-.70936	7	2.2	2.2	10.4
	-.63439	7	2.2	2.2	12.7
	-.55942	7	2.2	2.2	14.9
	-.48445	7	2.2	2.2	17.1
	-.40948	7	2.2	2.2	19.3
	-.33451	38	12.0	12.0	31.3
	-.25954	28	8.9	8.9	40.2
	-.18458	6	1.9	1.9	42.1
	.04033	24	7.6	7.6	49.7
	.11530	11	3.5	3.5	53.2
	.19027	24	7.6	7.6	60.8
	.26524	3	.9	.9	61.7
	.34021	5	1.6	1.6	63.3
	.56511	3	.9	.9	64.2
	.64008	26	8.2	8.2	72.5
	.71505	51	16.1	16.1	88.6
	.79002	19	6.0	6.0	94.6
	1.01493	2	.6	.6	95.3
	1.46474	12	3.8	3.8	99.1
	1.53971	3	.9	.9	100.0
	Total	316	100.0	100.0	



3. Monday and Saturday

1. Descriptive

```
DESCRIPTIVES VARIABLES=Zfinalscore
  /SAVE
  /STATISTICS=MEAN STDDEV VARIANCE RANGE SEMEAN KURTOSIS
SKEWNESS.
```

Descriptive Statistics

	N	Range	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Zscore(finalscore)	501	7.45951	.0000000	.04467671	1.00000000	1.000	-2.417	.109	10.959	.218
Valid N (listwise)	501									

2. Frequency

```
FREQUENCIES VARIABLES=Zfinalscore
  /HISTOGRAM NORMAL
  /ORDER=ANALYSIS.
```

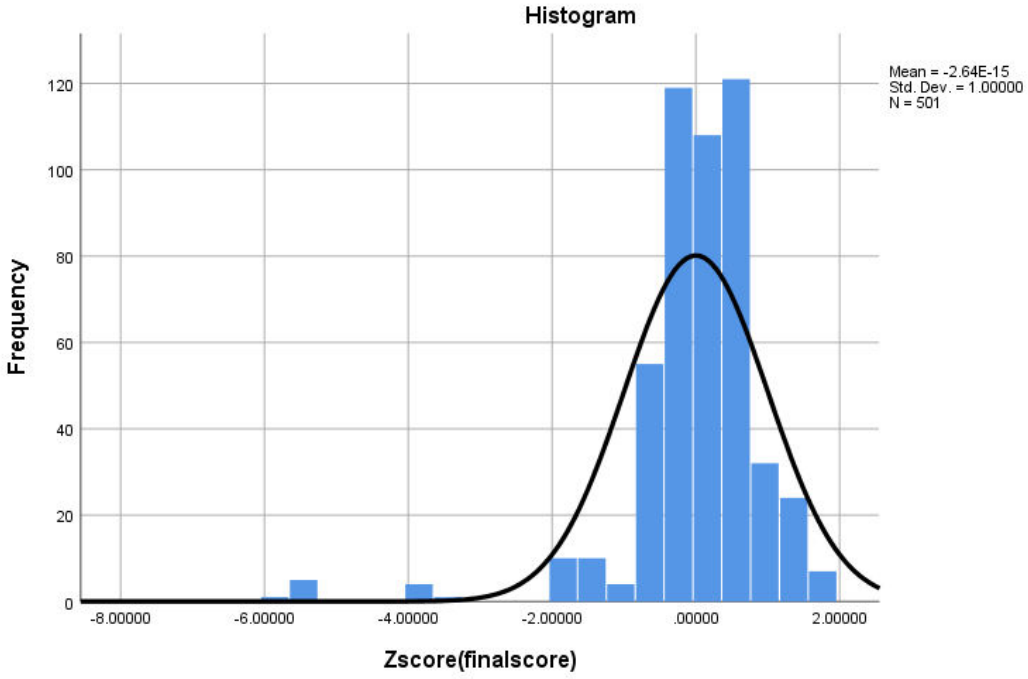
Statistics

Zscore(finalscore)

N	Valid	501
	Missing	0

Zscore(finalscore)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-5.85611	1	.2	.2	.2
	-5.53527	1	.2	.2	.4
	-5.45506	4	.8	.8	1.2
	-3.69045	4	.8	.8	2.0
	-3.36961	1	.2	.2	2.2
	-1.84562	1	.2	.2	2.4
	-1.76541	1	.2	.2	2.6
	-1.68521	8	1.6	1.6	4.2
	-1.60500	7	1.4	1.4	5.6
	-1.44458	3	.6	.6	6.2
	-1.04353	4	.8	.8	7.0
	-.80290	11	2.2	2.2	9.2
	-.72269	11	2.2	2.2	11.4
	-.64248	11	2.2	2.2	13.6
	-.56227	11	2.2	2.2	15.8
	-.48206	11	2.2	2.2	18.0
	-.40185	63	12.6	12.6	30.5
	-.32164	48	9.6	9.6	40.1
	-.24143	8	1.6	1.6	41.7
	-.00080	45	9.0	9.0	50.7
	.07941	19	3.8	3.8	54.5
	.15962	32	6.4	6.4	60.9
	.23983	4	.8	.8	61.7
	.32004	8	1.6	1.6	63.3
	.40025	4	.8	.8	64.1
	.56067	8	1.6	1.6	65.7
	.64088	38	7.6	7.6	73.3
	.72109	71	14.2	14.2	87.4
	.80130	26	5.2	5.2	92.6
	1.04193	5	1.0	1.0	93.6
	1.12214	1	.2	.2	93.8
	1.44297	6	1.2	1.2	95.0
	1.52318	18	3.6	3.6	98.6
	1.60339	7	1.4	1.4	100.0
	Total	501	100.0	100.0	



2) TEST FOR NORMALITY

1. Saturday

```
EXAMINE VARIABLES=Zfinalscore
  /PLOT BOXPLOT STEMLEAF HISTOGRAM NPPLOT
  /COMPARE GROUPS
  /STATISTICS DESCRIPTIVES
  /CINTERVAL 95
  /MISSING LISTWISE
  /NOTOTAL.
```

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Zscore(finalscore)	316	100.0%	0	0.0%	316	100.0%

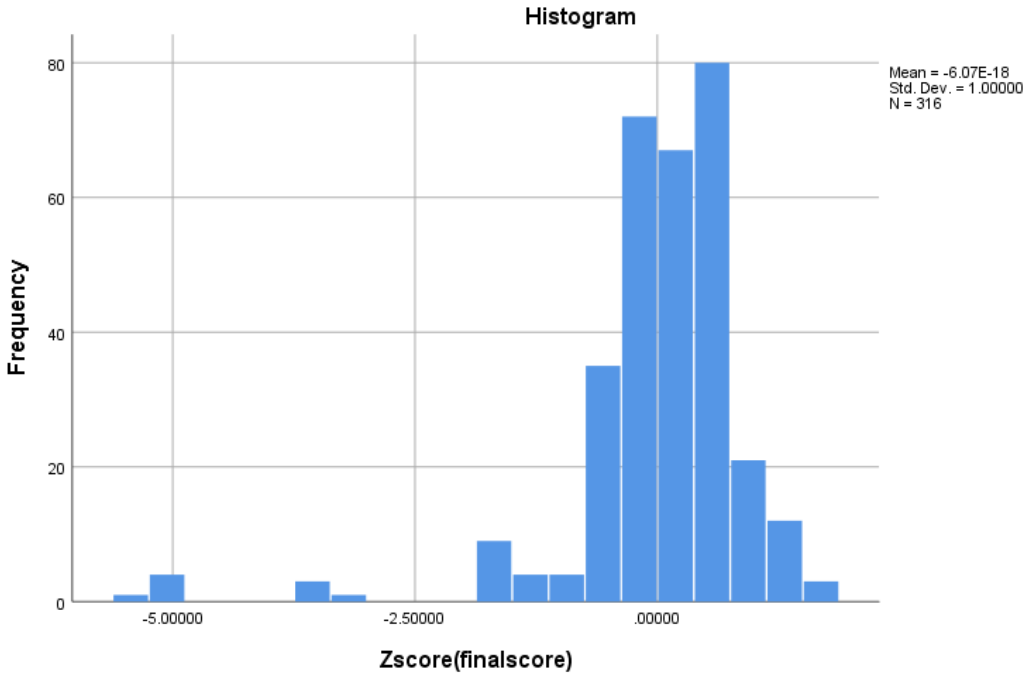
Descriptives

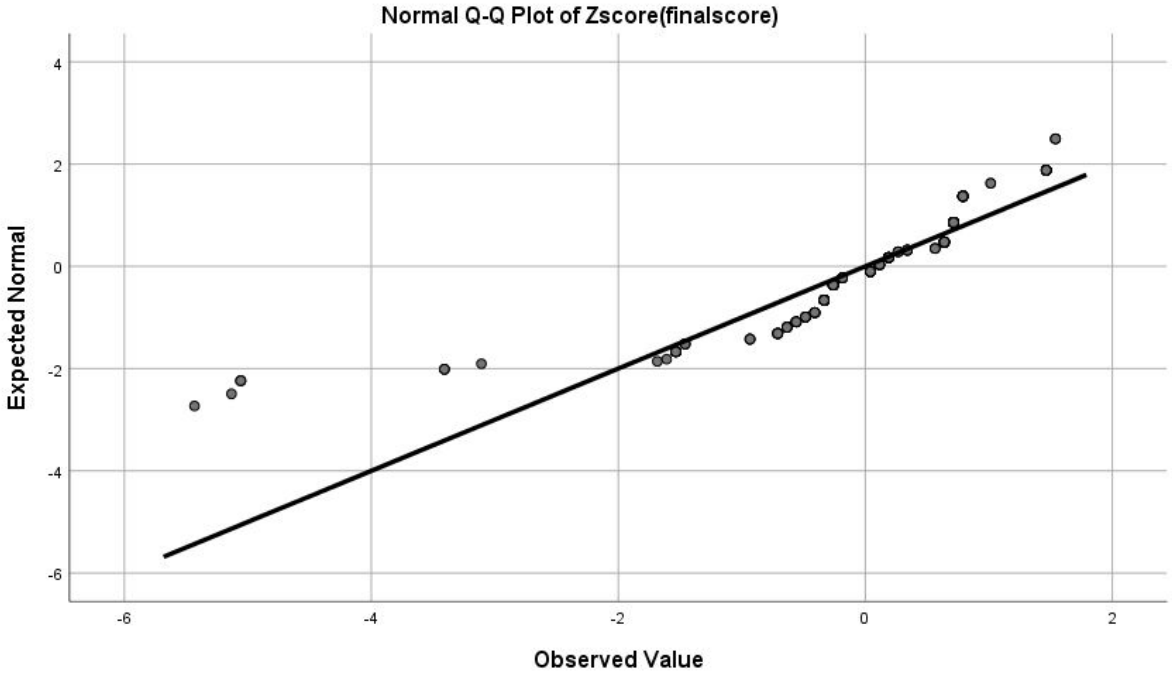
			Statistic	Std. Error
Zscore(finalscore)	Mean		.0000000	.05625440
	95% Confidence Interval for Mean	Lower Bound	-.1106818	
		Upper Bound	.1106818	
	5% Trimmed Mean		.0939483	
	Median		.1153002	
	Variance		1.000	
	Std. Deviation		1.00000000	
	Minimum		-5.43239	
	Maximum		1.53971	
	Range		6.97210	
	Interquartile Range		1.04956	
	Skewness		-2.570	.137
	Kurtosis		10.577	.273

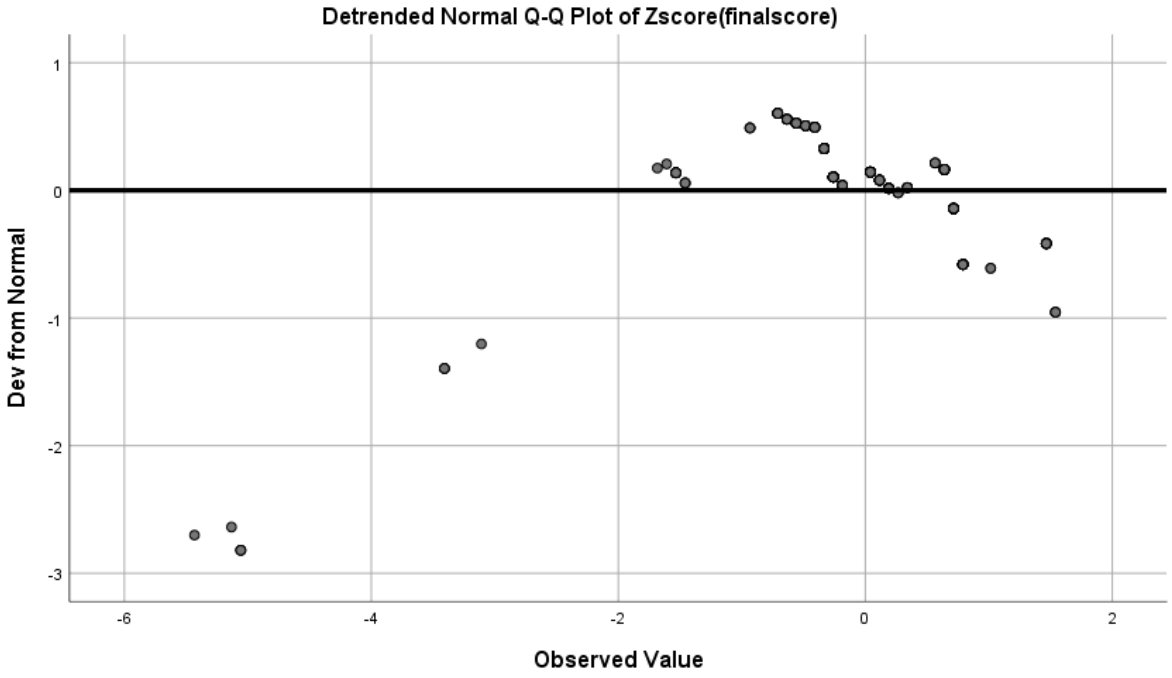
Tests of Normality

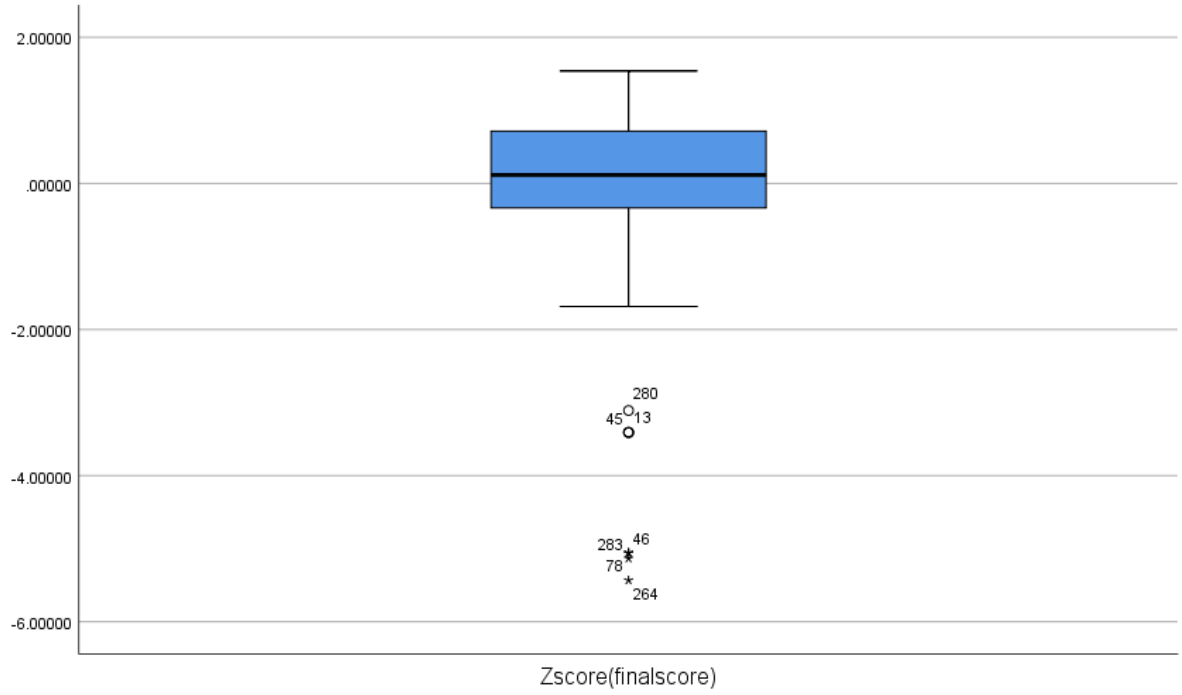
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Zscore(finalscore)	.176	316	.000	.767	316	.000

a. Lilliefors Significance Correction




Normal Q-Q Plot of Zscore(finalscore)
Expected Normal
Observed Value
4
2
0
-2
-4
-6
-6
-4
-2
0
2


Detrended Normal Q-Q Plot of Zscore(finalscore)
Dev from Normal
Observed Value
1
0
-1
-2
-3
-6
-4
-2
0
2



2. Monday

```
* Define Variable Properties.
EXECUTE.
DATASET ACTIVATE DataSet2.
EXAMINE VARIABLES=Zfinalscore
  /PLOT BOXPLOT STEMLEAF HISTOGRAM NPPLOT
  /COMPARE GROUPS
  /STATISTICS DESCRIPTIVES
  /CINTERVAL 95
  /MISSING LISTWISE
  /NOTOTAL.
```

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Zscore(finalscore)	185	100.0%	0	0.0%	185	100.0%

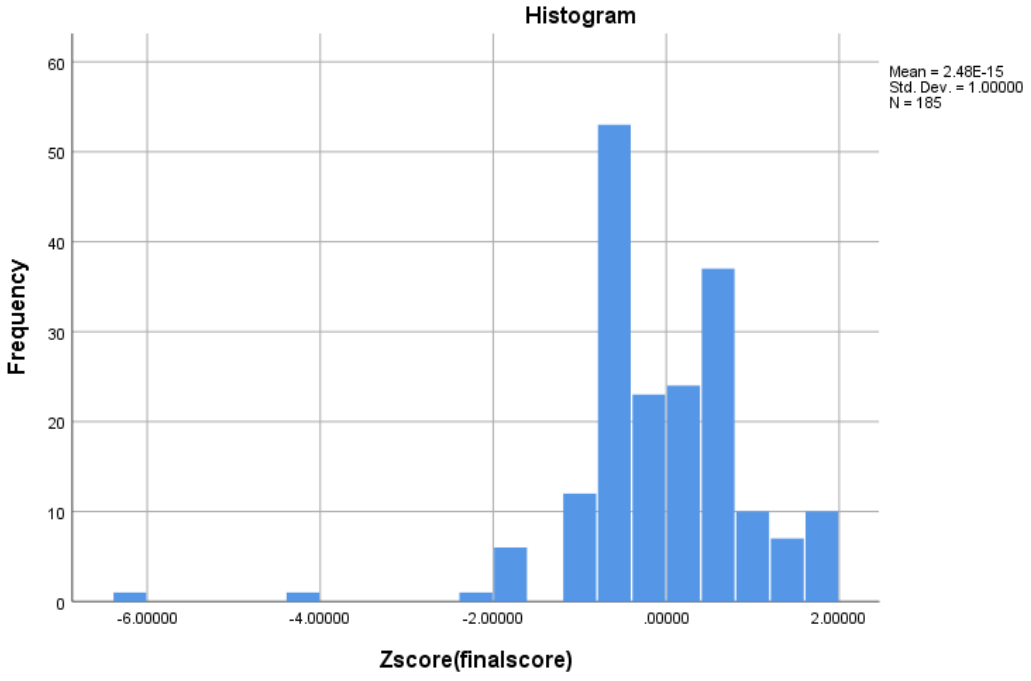
Descriptives

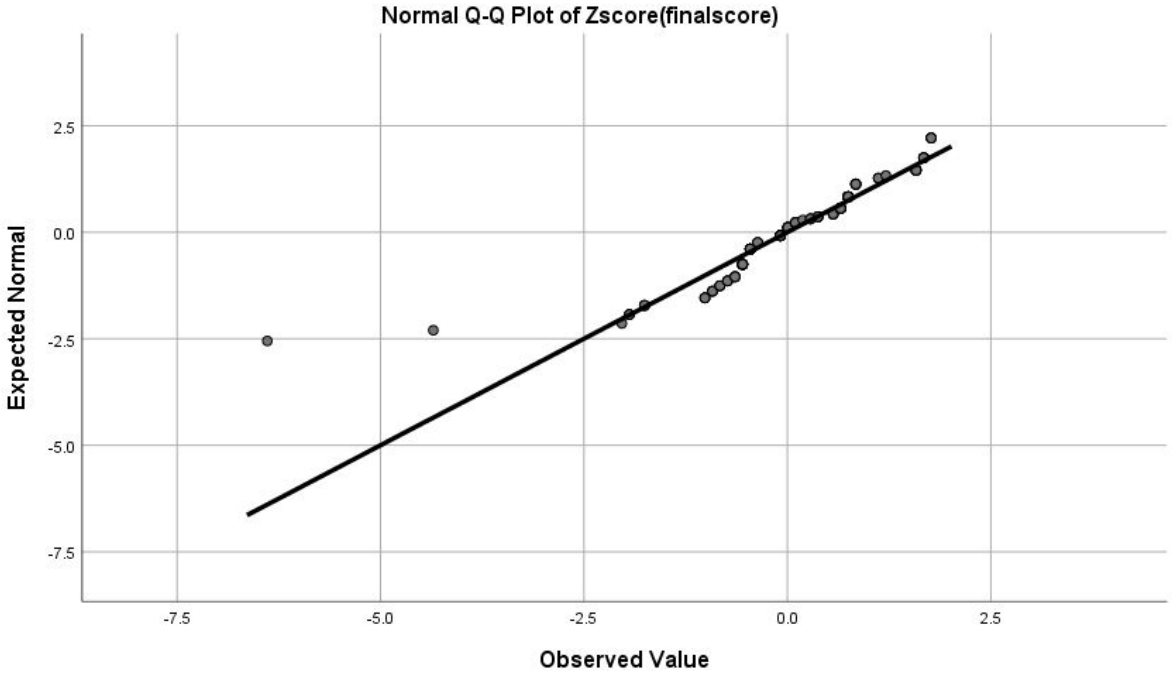
			Statistic	Std. Error
Zscore(finalscore)	Mean		.0000000	.07352146
	95% Confidence Interval for Mean	Lower Bound	-.1450535	
		Upper Bound	.1450535	
	5% Trimmed Mean		.0496889	
	Median		-.0876863	
	Variance		1.000	
	Std. Deviation		1.00000000	
	Minimum		-6.39108	
	Maximum		1.76625	
	Range		8.15733	
	Interquartile Range		1.29776	
	Skewness		-1.713	.179
	Kurtosis		9.709	.355

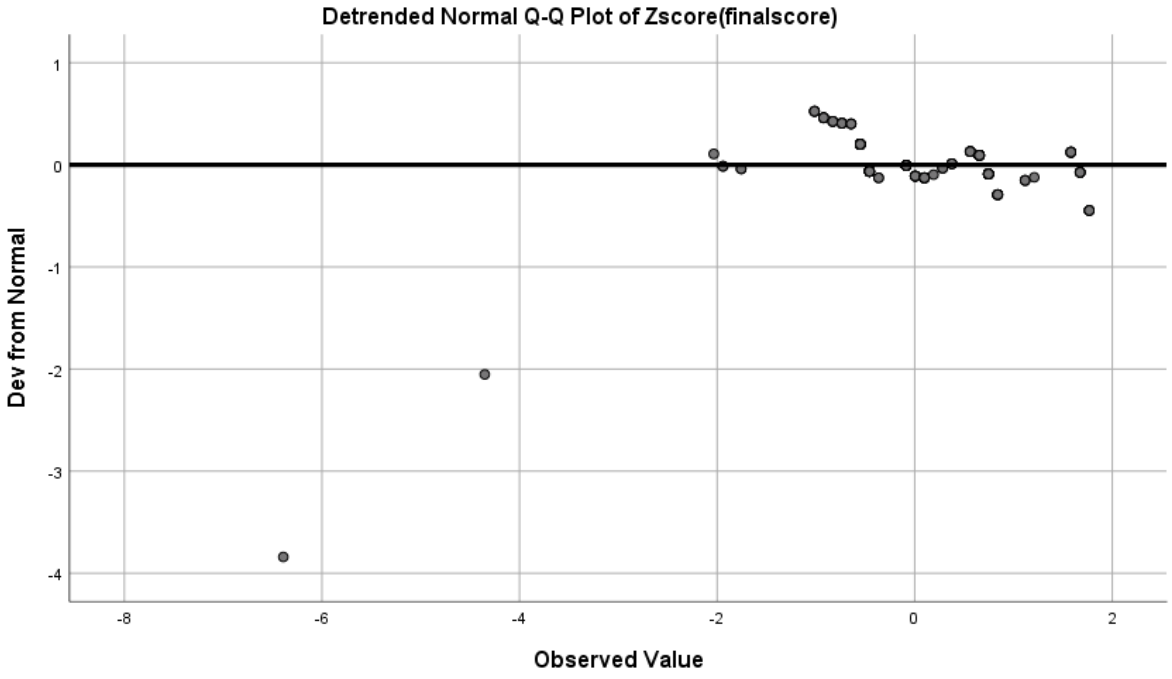
Tests of Normality

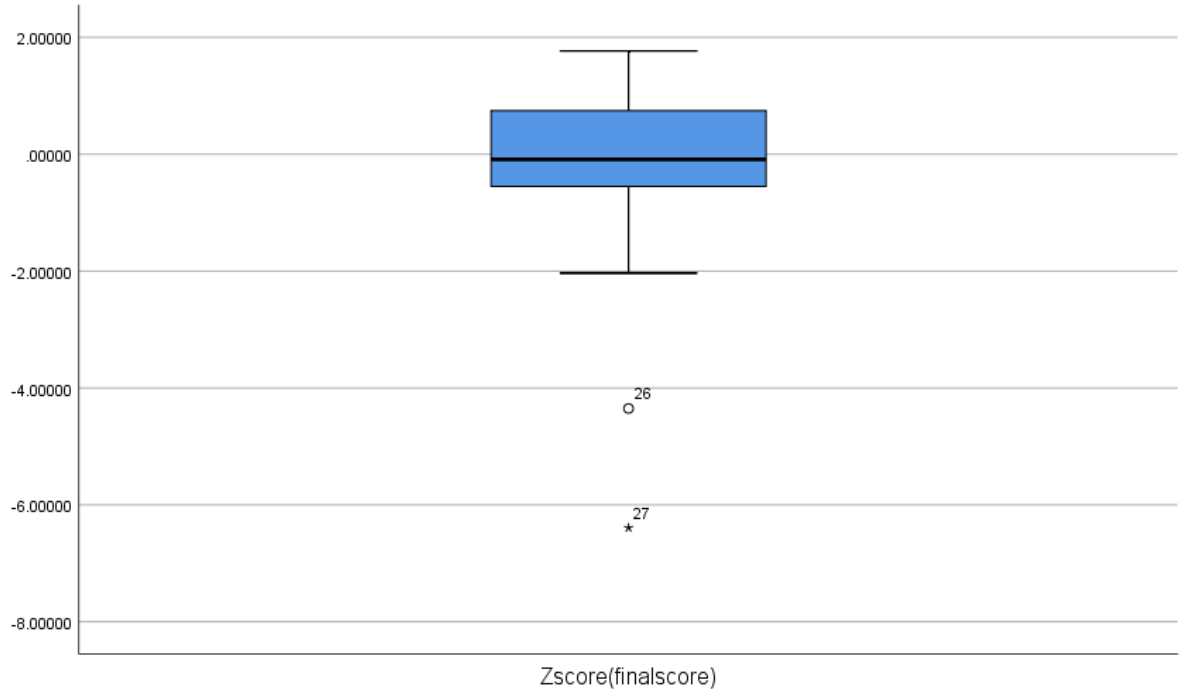
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Zscore(finalscore)	.134	185	.000	.864	185	.000

a. Lilliefors Significance Correction




Normal Q-Q Plot of Zscore(finalscore)
Expected Normal
Observed Value
2.5
0.0
-2.5
-5.0
-7.5
-7.5
-5.0
-2.5
0.0
2.5


Detrended Normal Q-Q Plot of Zscore(finalscore)
Dev from Normal
Observed Value
1
0
-1
-2
-3
-4
-8
-6
-4
-2
0
2



3. Monday and Saturday

```
EXAMINE VARIABLES=Zfinalscore
  /PLOT BOXPLOT STEMLEAF HISTOGRAM NPPLOT
  /COMPARE GROUPS
  /STATISTICS DESCRIPTIVES
  /CINTERVAL 95
  /MISSING LISTWISE
  /NOTOTAL.
```

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Zscore(finalscore)	501	100.0%	0	0.0%	501	100.0%

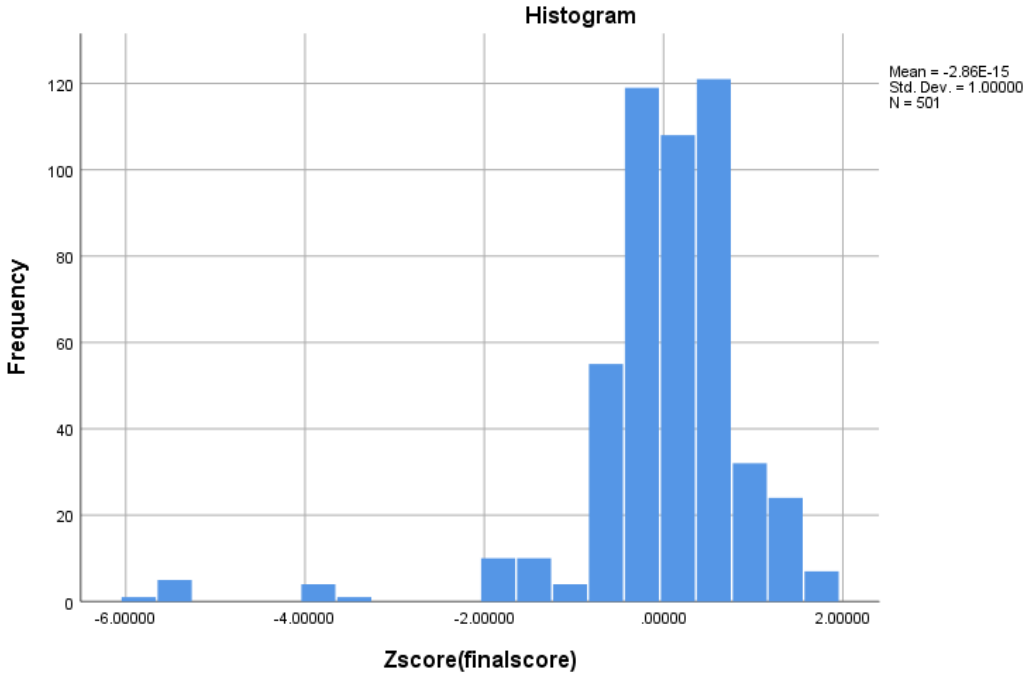
Descriptives

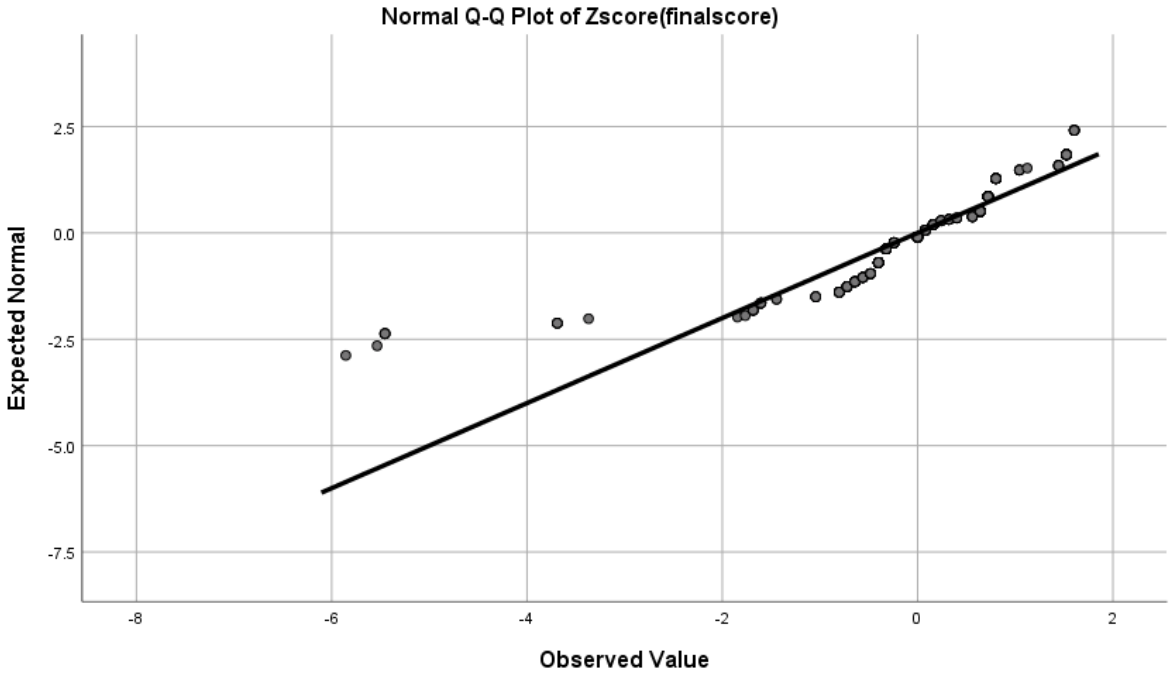
			Statistic	Std. Error
Zscore(finalscore)	Mean		.0000000	.04467671
	95% Confidence Interval for Mean	Lower Bound	-.0877772	
		Upper Bound	.0877772	
	5% Trimmed Mean		.0803343	
	Median		-.0008005	
	Variance		1.000	
	Std. Deviation		1.00000000	
	Minimum		-5.85611	
	Maximum		1.60339	
	Range		7.45951	
	Interquartile Range		1.12294	
	Skewness		-2.417	.109
	Kurtosis		10.959	.218

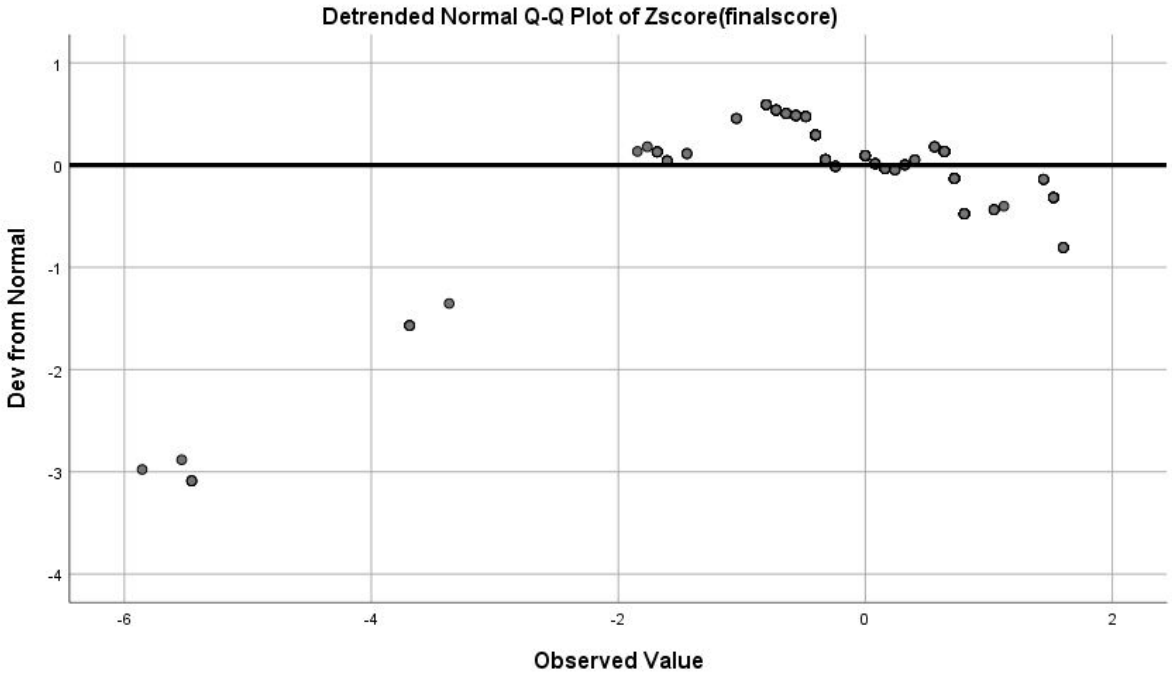
Tests of Normality

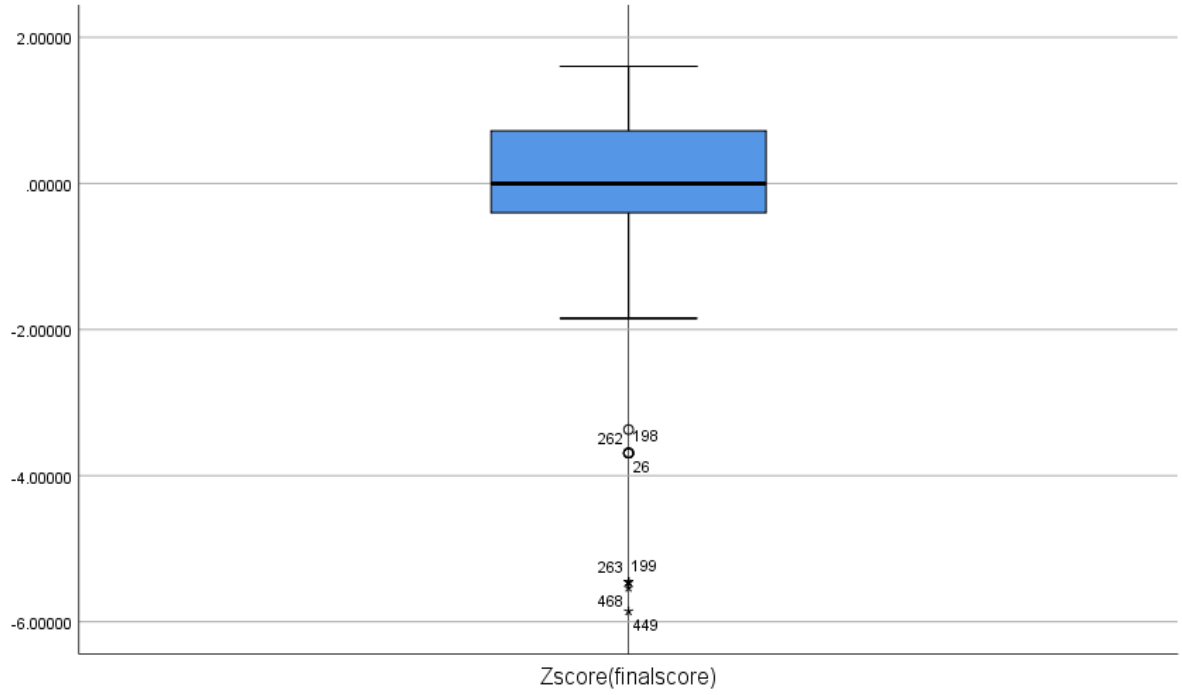
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Zscore(finalscore)	.164	501	.000	.795	501	.000

a. Lilliefors Significance Correction




Normal Q-Q Plot of Zscore(finalscore)
Expected Normal
2.5
0.0
-2.5
-5.0
-7.5
-8
-6
-4
-2
0
2
Observed Value


Detrended Normal Q-Q Plot of Zscore(finalscore)
Dev from Normal
1
0
-1
-2
-3
-4
-6
-4
-2
0
2
Observed Value



Explanation

Part A:

Percentage confidence of the event happening

Monday

1. **Item 1(i1)** – 97.3
2. **Item 2(i2)** – 96.2
3. **Item 3(i3)** – 97.8
4. I**tem 4(i4)** – 97.8
5. **Item 5(i5**) – 98.9
6. **Item 6(i6)** – 98.4
7. **Item 7(i7)** – 97.3
8. **Item 8(i8)** – 98.4
9. **Item 9(i9)** – 98.4
10. **Item 10(i10)** – 97.8
11. **Item 11(i11)** – 98.4
12. **Item 12(i12)** – 97.8
13. **Item 13(i13)** – 98.4
14. **Item 14(i14)** – 97.8
15. **Item 15(i15)** – 97.8
16. **Item 16(i16)** – 98.9
17. **Item 17(i17)** – 96.8

18. **Item 18(i18)** – 96.2
19. **Item 19(i19)** – 97.3
20. **Item 20(i20)** - 97.3

Saturday

1. **Item 1(i1)** – 100
2. **Item 2(i2)** – 99.7
3. **Item 3(i3)** – 99.4
4. I**tem 4(i4)** – 99.7
5. **Item 5(i5**) – 99.7
6. **Item 6(i6)** – 99.7
7. **Item 7(i7)** – 99.7
8. **Item 8(i8)** – 100
9. **Item 9(i9)** – 100
10. **Item 10(i10)** – 99.4
11. **Item 11(i11)** – 99.7
12. **Item 12(i12)** – 100
13. **Item 13(i13)** – 99.7
14. **Item 14(i14)** – 100
15. **Item 15(i15)** – 99.7
16. **Item 16(i16)** – 100
17. **Item 17(i17)** – 99.7
18. **Item 18(i18)** – 99.7
19. **Item 19(i19)** – 99,4
20. **Item 20(i20)** – 99.4

Z-score analysis

1. **Monday and Saturday**

Kurtosis: - has std error of 0.218, statistic of 10.959

Skewness: has std error of 0.109, statistic of -2.417

Mean: std error of 0.04467671

2. **Monday**

Kurtosis: has std error of 0.273, statistic of 10.577

Skewness: has std error of 0.137, statistic of – 2.570

Mean: std error of 0.05625440

3. Saturday

Kurtosis: has std error of 0.07352146, statistic of 10.959

Skewness: has std error of 0.179, statistic of -2.570

Mean: std error of 0.07352146

Part B:

Testing for normality – true if (std error of the mean >= 0.05)

1. **Monday and Saturday:** has a std error of 0.04467671
2. **Monday:** has a std error of 0.07352146
3. **Saturday:** has a std error of 0.05625440

References

Mardia, K. V. (2013). Applications of some measures of multivariate skewness and kurtosis in testing normality and robustness studies. *Sankhyā: The Indian Journal of Statistics, Series B*, 115-128.

Tian, L., Cai, T., Goetghebeur, E., & Wei, L. J. (2007). Model evaluation based on the sampling distribution of estimated absolute prediction error. *Biometrika*, *94*(2), 297-311.