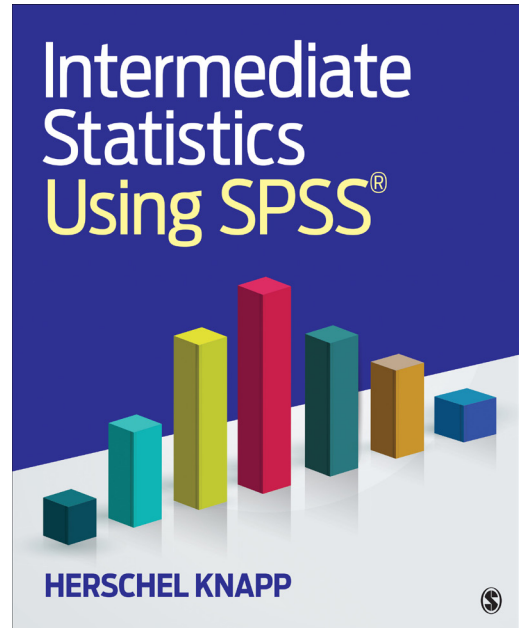


C H A P T E R 3

Descriptive Statistics

Solutions to Odd-Numbered Exercises

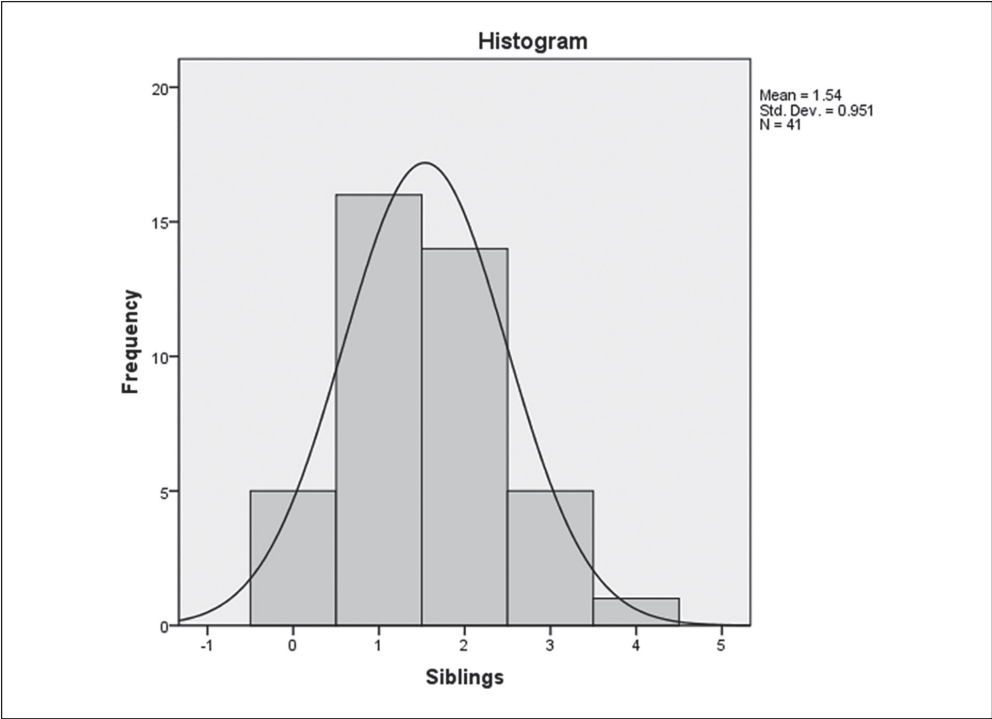
Exercise	Page
3.1	16
3.3	20
3.5	24
3.7	29
3.9	34



EXERCISE 3.1

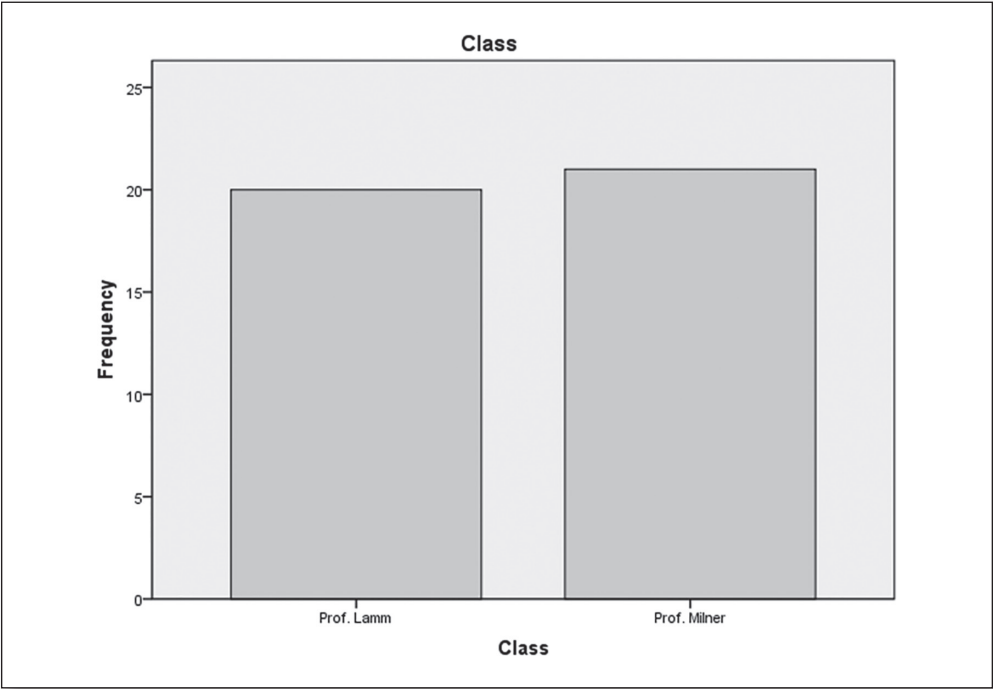
(a)

Statistics		
Siblings		
N	Valid	41
	Missing	0
Mean		1.54
Median		1.00
Mode		1
Std. Deviation		.951
Variance		.905
Range		4
Minimum		0
Maximum		4



(b)

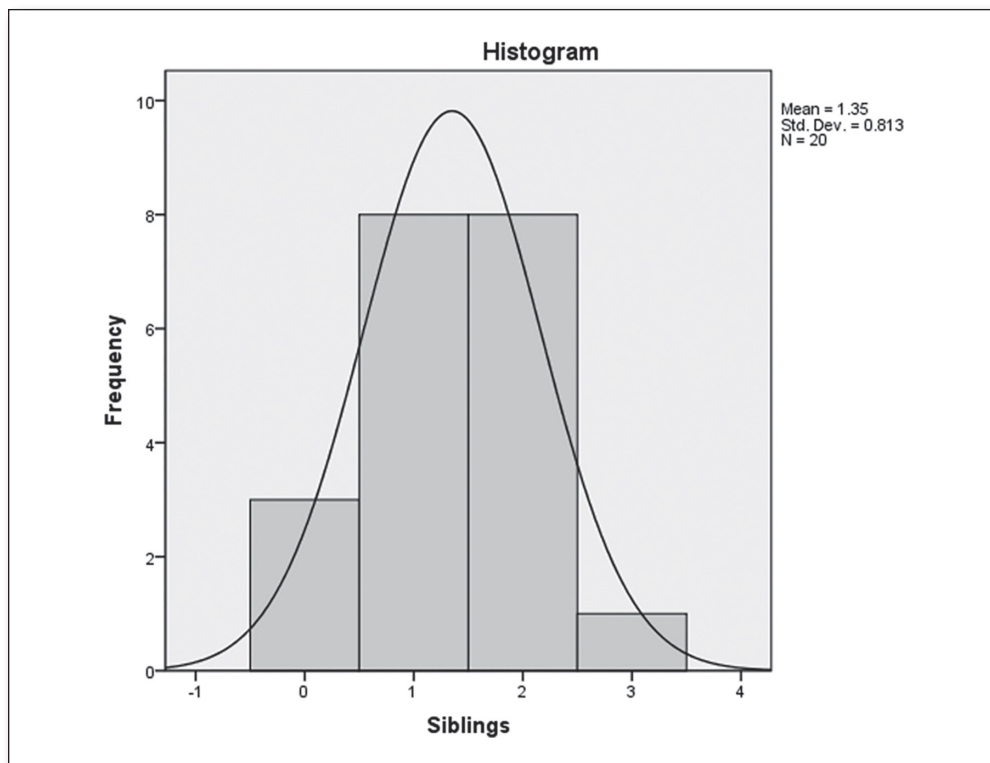
Class					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Prof. Lamm	20	48.8	48.8	48.8
	Prof. Milner	21	51.2	51.2	100.0
	Total	41	100.0	100.0	



(c)

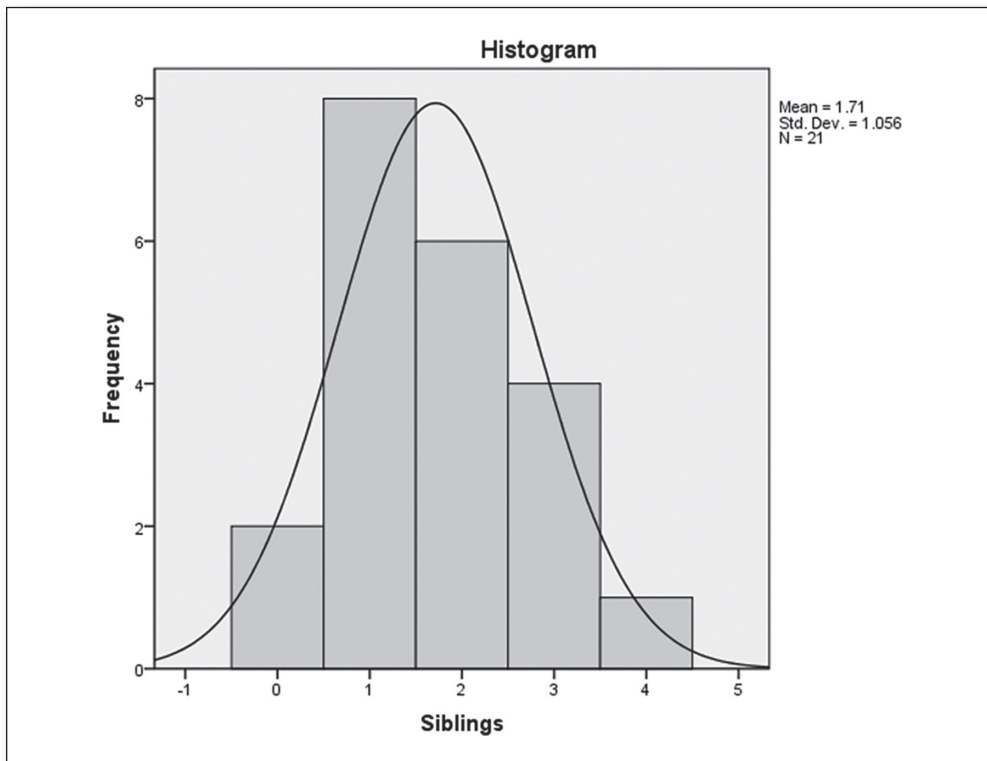
Statistics		
Siblings		
N	Valid	20
	Missing	0
Mean		1.35
Median		1.00
Mode		1 ^a
Std. Deviation		.813
Variance		.661
Range		3
Minimum		0
Maximum		3

a. Multiple modes exist. The smallest value is shown



(d)

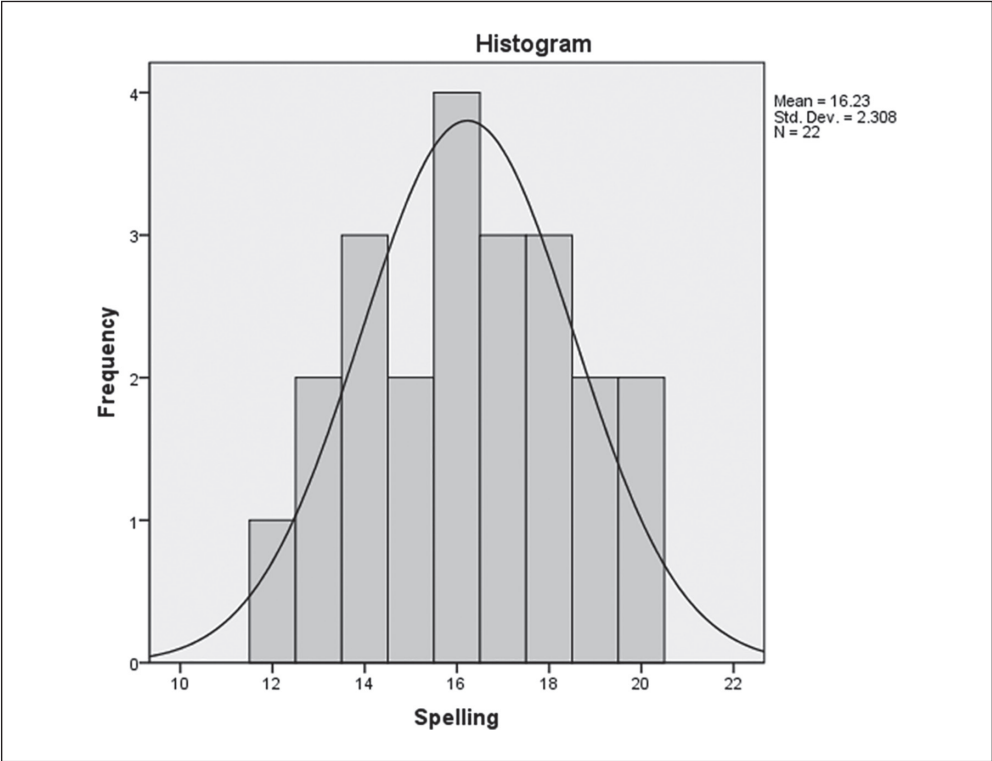
Statistics		
Siblings		
N	Valid	21
	Missing	0
Mean		1.71
Median		2.00
Mode		1
Std. Deviation		1.056
Variance		1.114
Range		4
Minimum		0
Maximum		4



EXERCISE 3.3

(a)

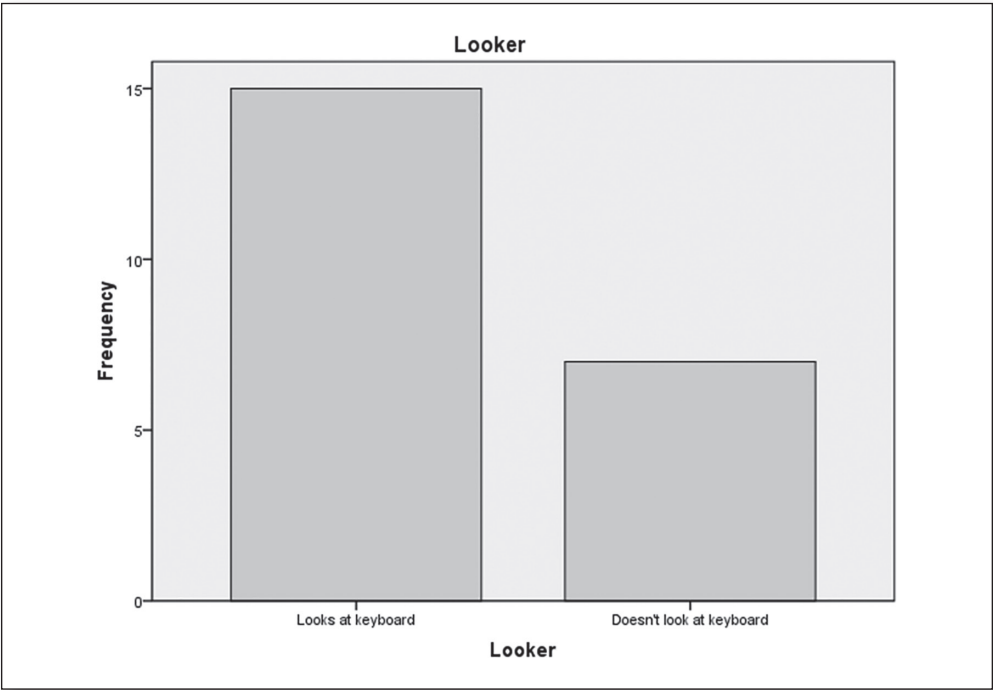
Statistics		
Spelling		
N	Valid	22
	Missing	0
Mean		16.23
Median		16.00
Mode		16
Std. Deviation		2.308
Variance		5.327
Range		8
Minimum		12
Maximum		20



(b)

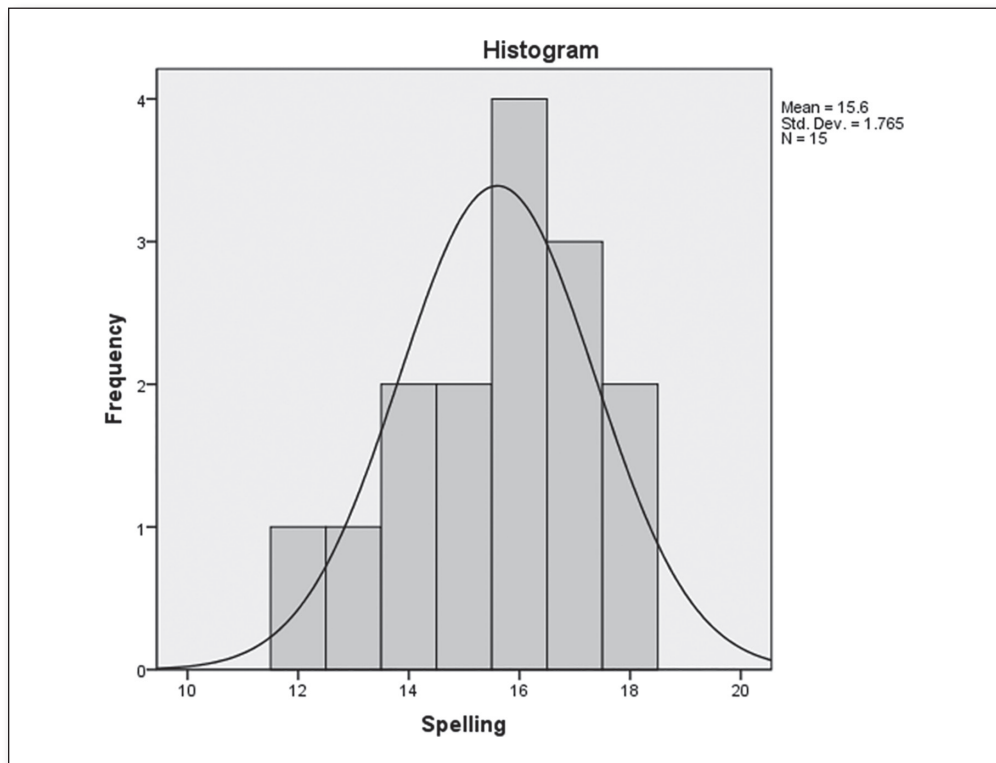
Statistics					
Looker					
N	Valid	22			
	Missing	0			

looker					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Looks at keyboard	15	68.2	68.2	68.2
	Doesn't look at keyboard	7	31.8	31.8	100.0
	Total	22	100.0	100.0	



(c)

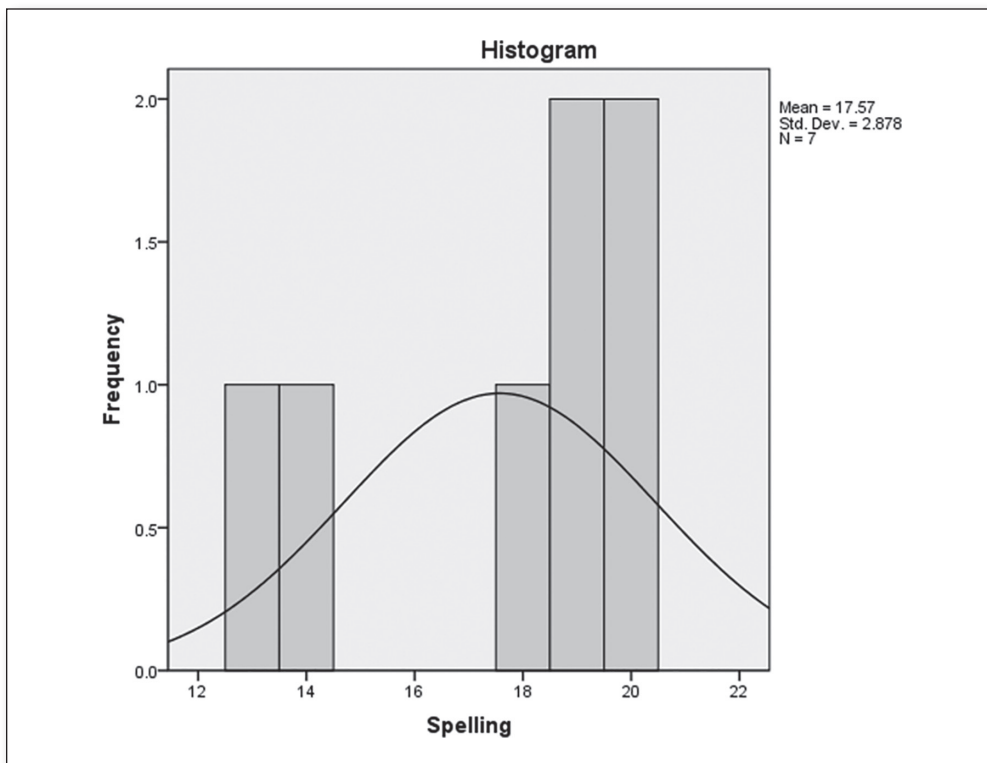
Statistics		
Spelling		
N	Valid	15
	Missing	0
Mean		15.60
Median		16.00
Mode		16
Std. Deviation		1.765
Variance		3.114
Range		6
Minimum		12
Maximum		18



(d)

Statistics		
Spelling		
N	Valid	7
	Missing	0
Mean		17.57
Median		19.00
Mode		19 ^a
Std. Deviation		2.878
Variance		8.286
Range		7
Minimum		13
Maximum		20

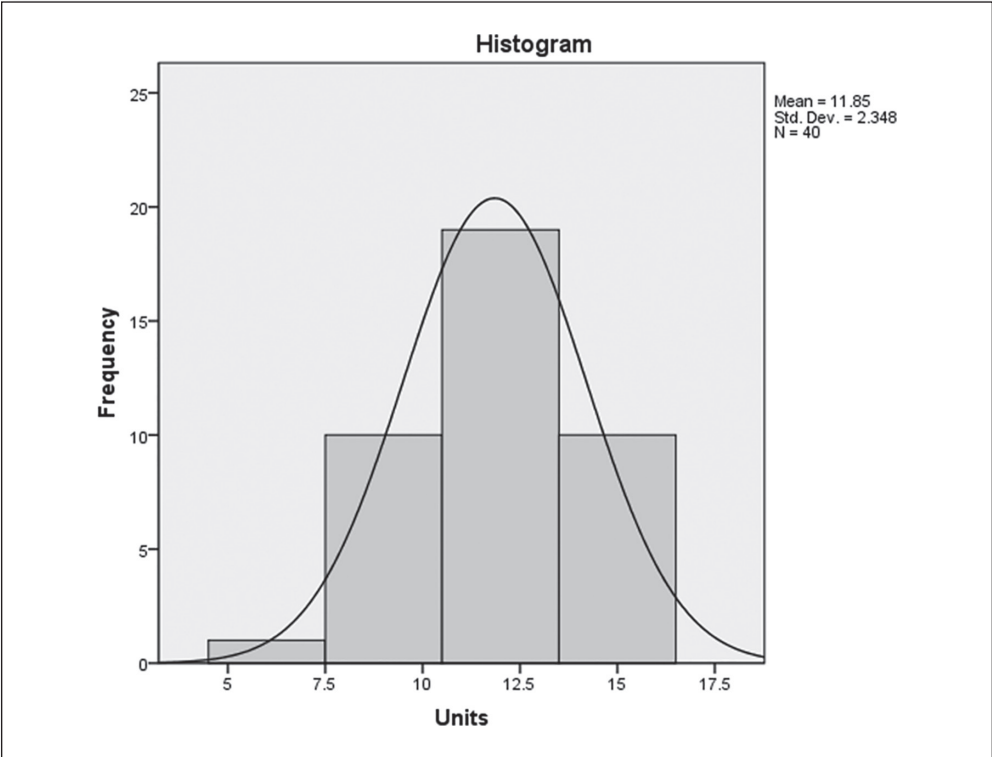
a. Multiple modes exist. The smallest value is shown



EXERCISE 3.5

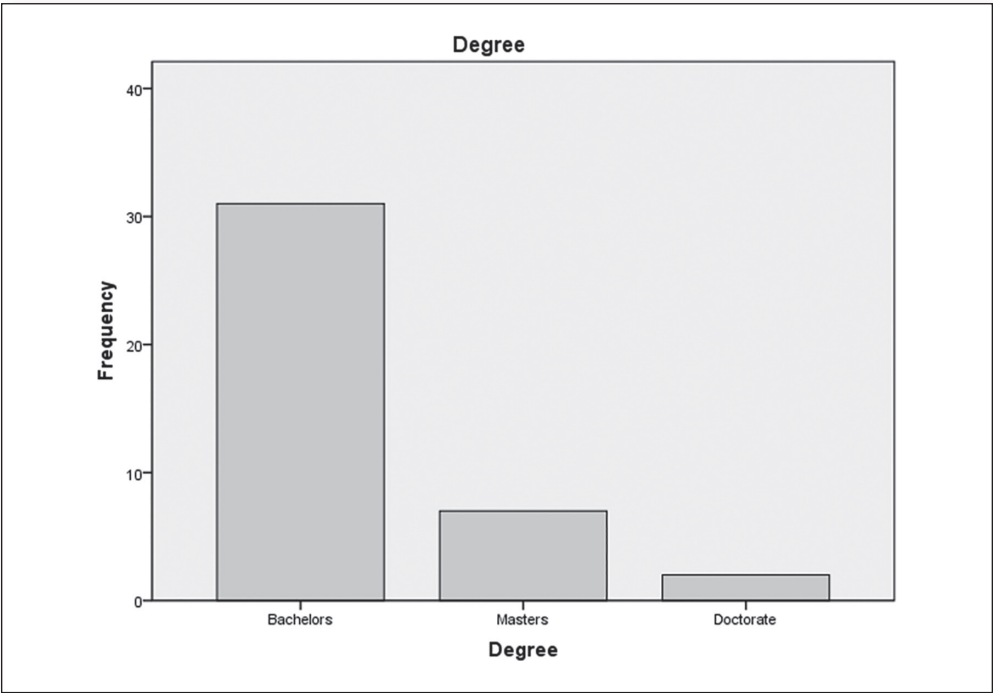
(a)

Statistics		
Units		
N	Valid	40
	Missing	0
Mean		11.85
Median		12.00
Mode		12
Std. Deviation		2.348
Variance		5.515
Range		9
Minimum		6
Maximum		15



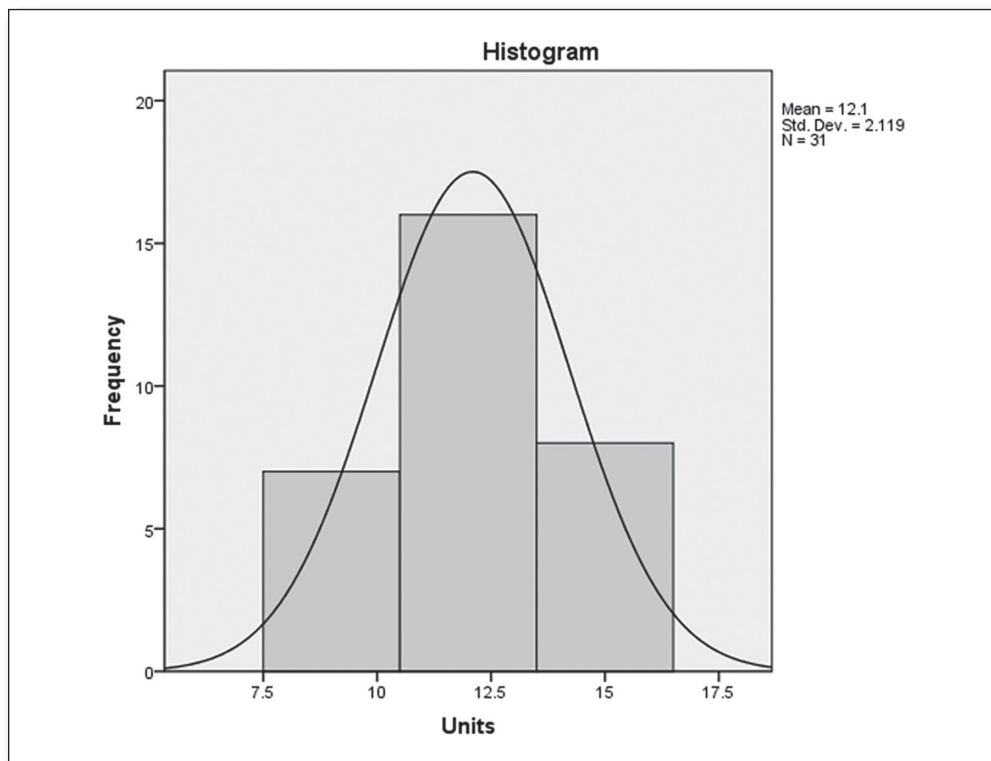
(b)

Degree					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bachelors	31	77.5	77.5	77.5
	Masters	7	17.5	17.5	95.0
	Doctorate	2	5.0	5.0	100.0
	Total	40	100.0	100.0	



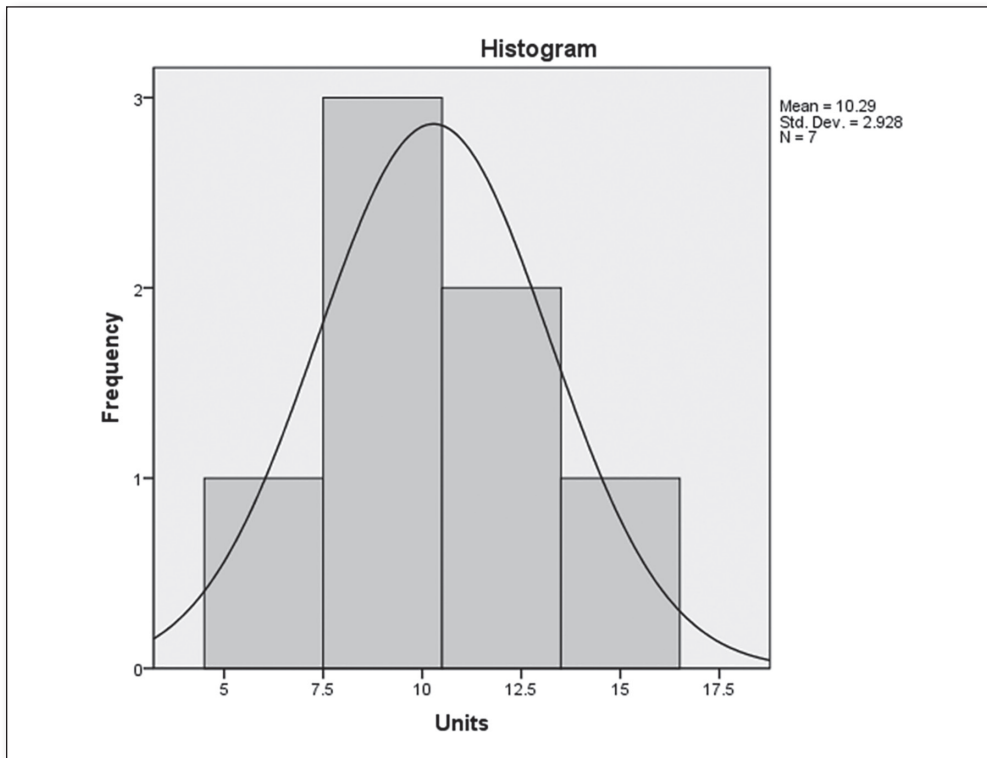
(c)

Statistics		
Units		
N	Valid	31
	Missing	0
Mean		12.10
Median		12.00
Mode		12
Std. Deviation		2.119
Variance		4.490
Range		6
Minimum		9
Maximum		15



(d)

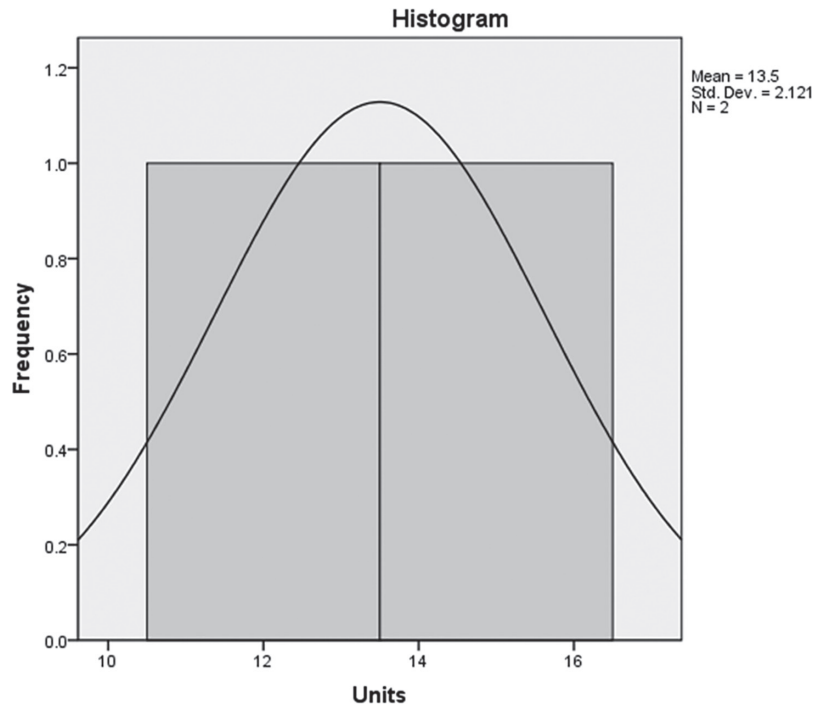
Statistics		
Units		
N	Valid	7
	Missing	0
Mean		10.29
Median		9.00
Mode		9
Std. Deviation		2.928
Variance		8.571
Range		9
Minimum		6
Maximum		15



(e)

Statistics		
Units		
N	Valid	2
	Missing	0
Mean		13.50
Median		13.50
Mode		12 ^a
Std. Deviation		2.121
Variance		4.500
Range		3
Minimum		12
Maximum		15

a. Multiple modes exist. The smallest value is shown



EXERCISE 3.7

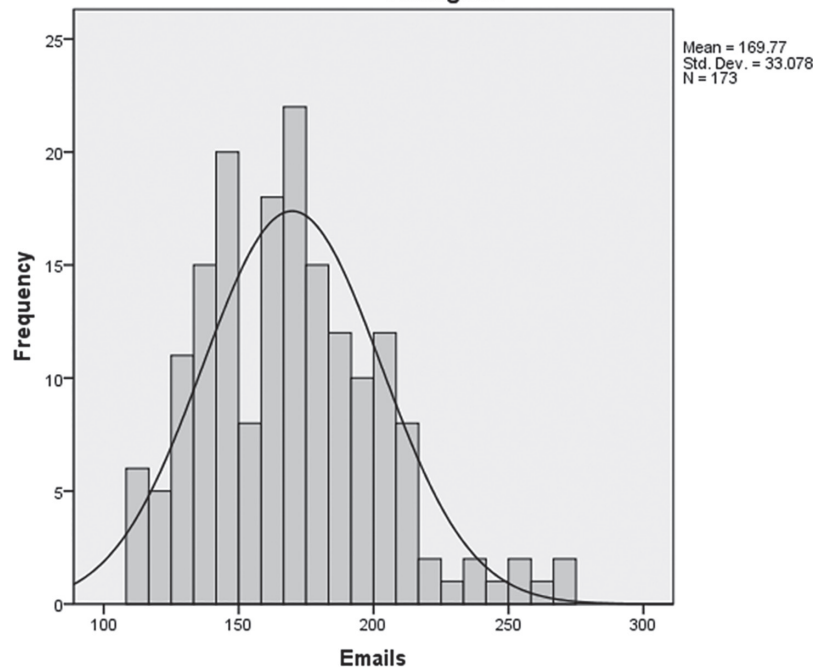
(a)

Statistics

Emails

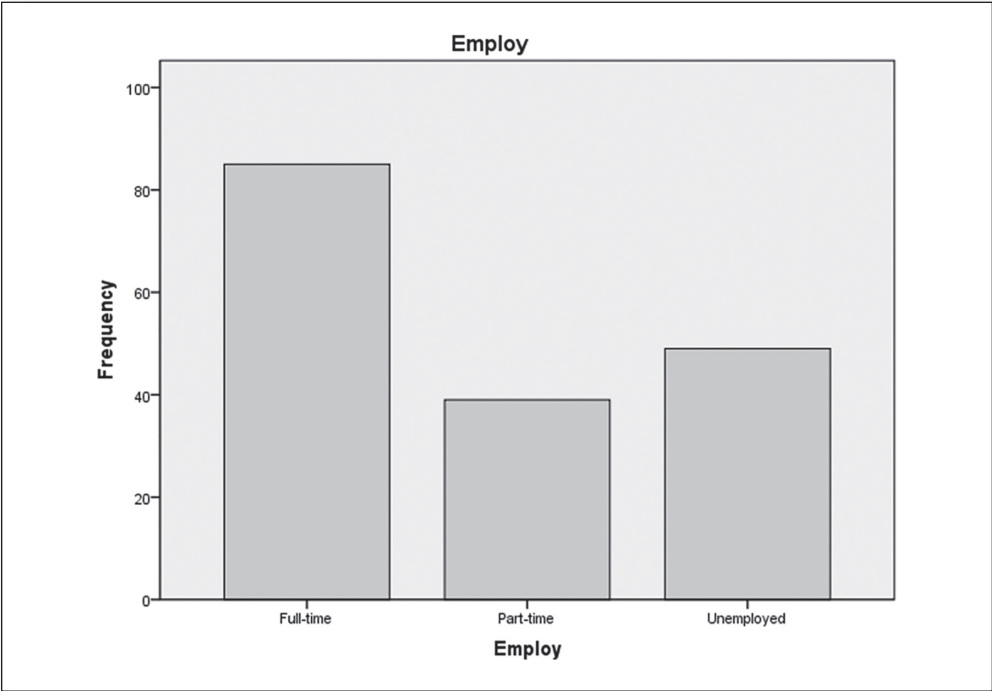
N	Valid	173
	Missing	0
Mean		169.77
Median		168.00
Mode		170
Std. Deviation		33.078
Variance		1094.164
Range		166
Minimum		109
Maximum		275

Histogram



(b)

Employ					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Full-time	85	49.1	49.1	49.1
	Part-time	39	22.5	22.5	71.7
	Unemployed	49	28.3	28.3	100.0
	Total	173	100.0	100.0	



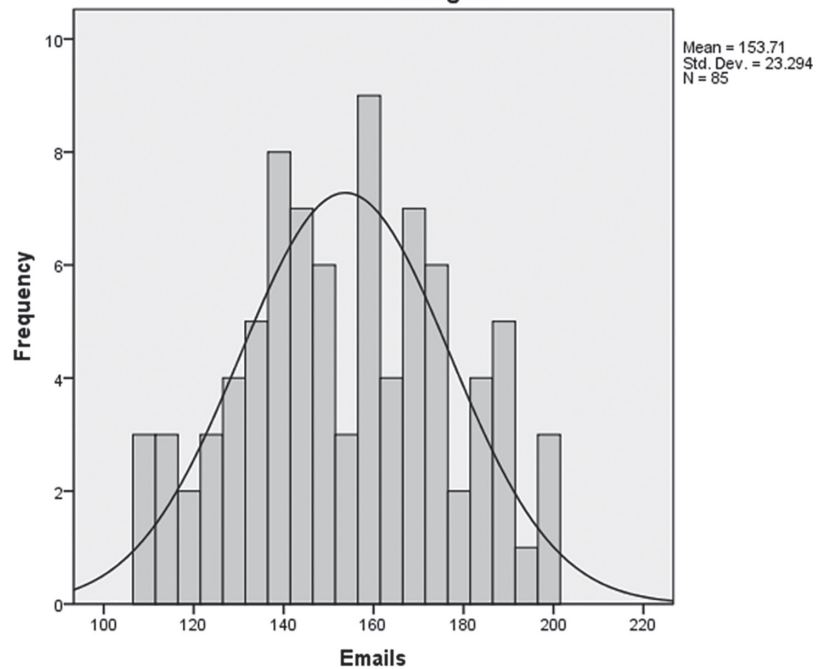
(c)

Statistics

Emails

N	Valid	85
	Missing	0
Mean		153.71
Median		153.00
Mode		137 ^a
Std. Deviation		23.294
Variance		542.615
Range		91
Minimum		109
Maximum		200

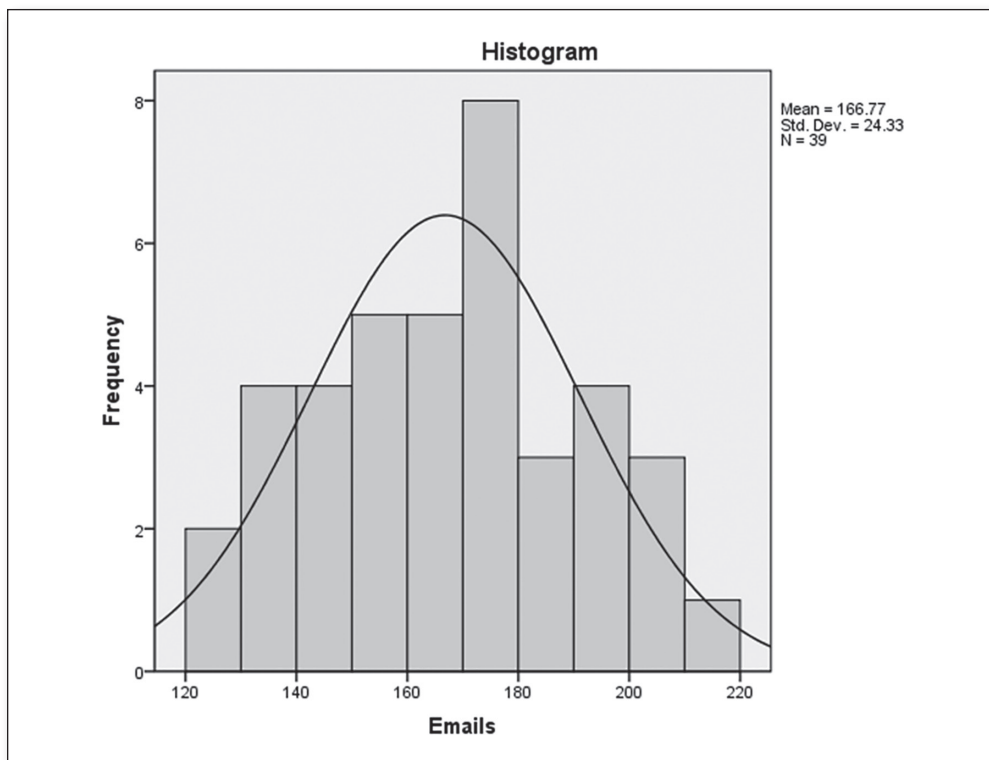
a. Multiple modes exist. The smallest value is shown

Histogram

(d)

Statistics		
Emails		
N	Valid	39
	Missing	0
Mean		166.77
Median		168.00
Mode		129 ^a
Std. Deviation		24.330
Variance		591.972
Range		89
Minimum		129
Maximum		218

a. Multiple modes exist. The smallest value is shown



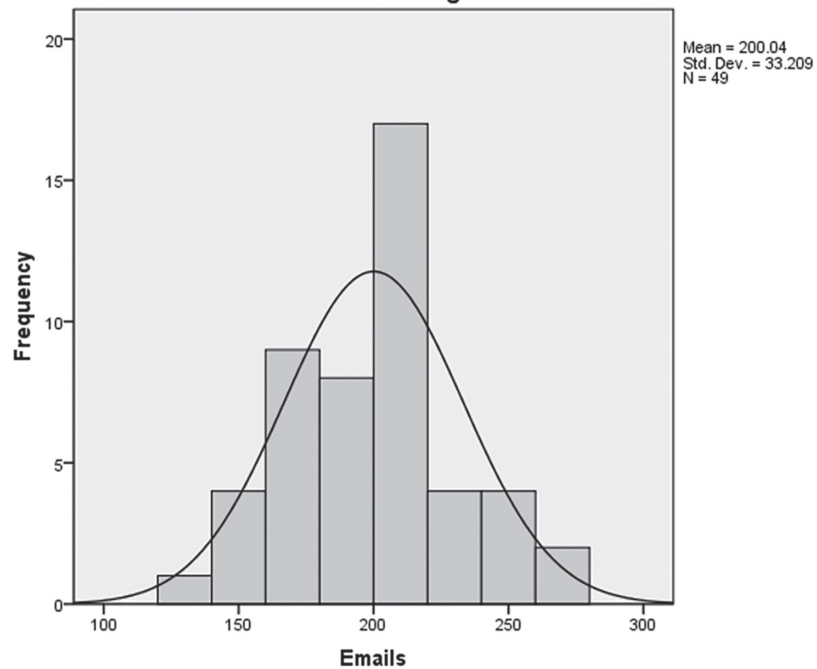
(e)

Statistics

Emails

N	Valid	49
	Missing	0
Mean		200.04
Median		204.00
Mode		175 ^a
Std. Deviation		33.209
Variance		1102.832
Range		139
Minimum		136
Maximum		275

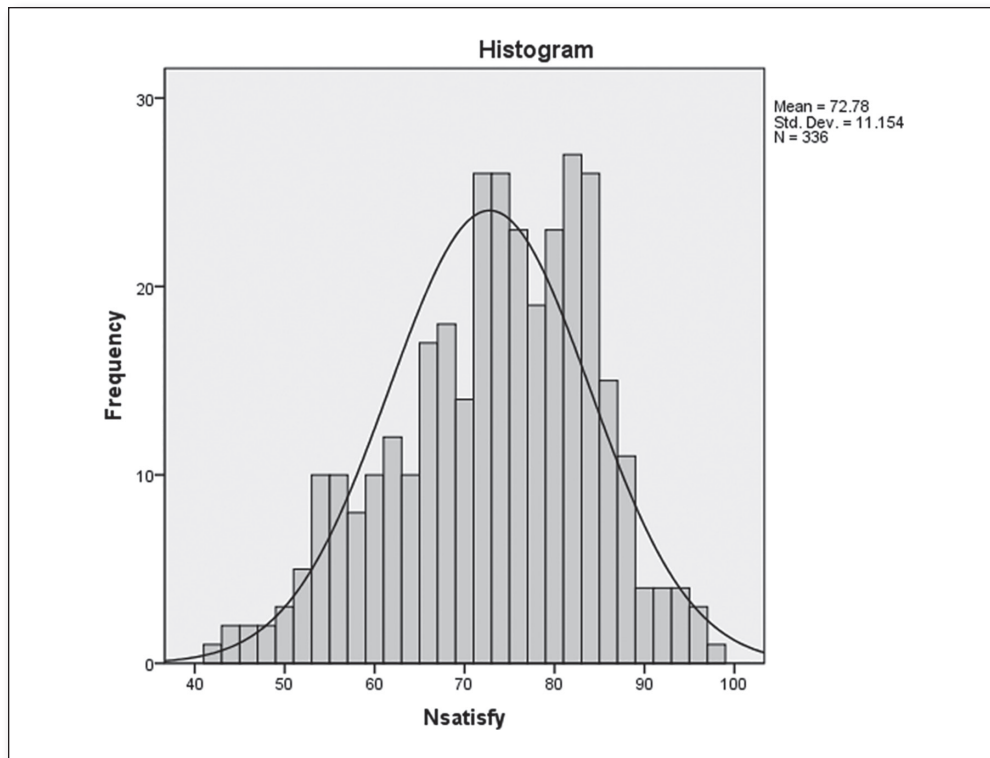
a. Multiple modes exist. The smallest value is shown

Histogram

EXERCISE 3.9

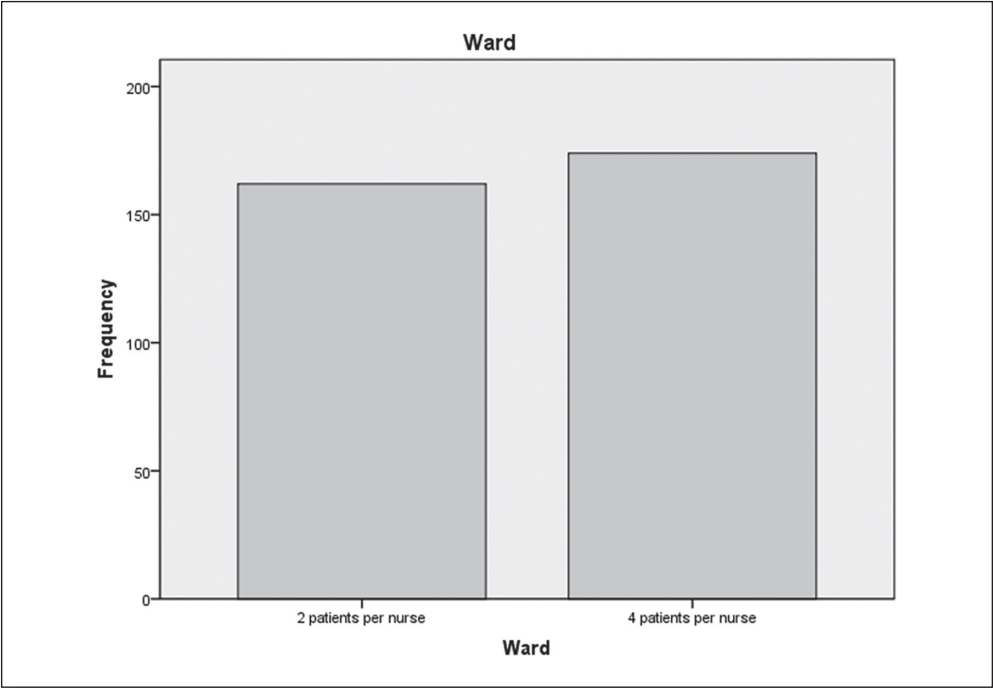
(a)

Statistics		
Nsatisfy		
N	Valid	336
	Missing	0
Mean		72.78
Median		74.00
Mode		82
Std. Deviation		11.154
Variance		124.421
Range		56
Minimum		42
Maximum		98



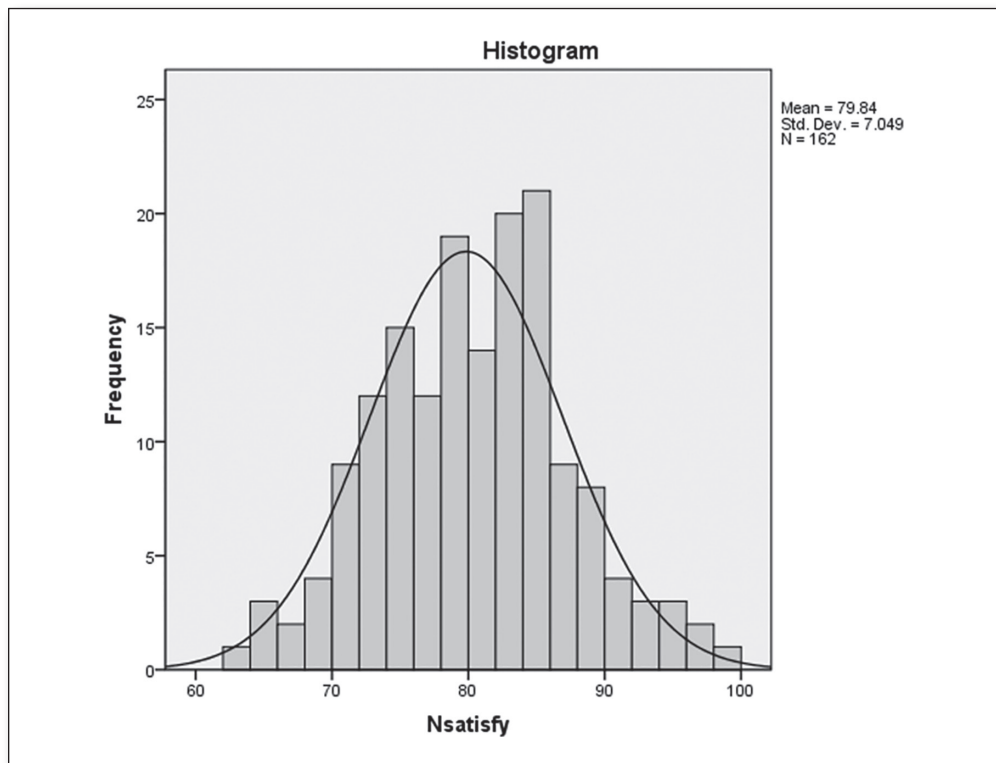
(b)

Ward					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2 patients per nurse	162	48.2	48.2	48.2
	4 patients per nurse	174	51.8	51.8	100.0
Total		336	100.0	100.0	



(c)

Statistics		
Nsatisfy		
N	Valid	162
	Missing	0
Mean		79.84
Median		80.00
Mode		82
Std. Deviation		7.049
Variance		49.688
Range		35
Minimum		63
Maximum		98



(d)

Statistics

Nsatisfy		
N	Valid	174
	Missing	0
Mean		66.21
Median		66.00
Mode		65 ^a
Std. Deviation		10.229
Variance		104.642
Range		46
Minimum		42
Maximum		88

a. Multiple modes exist. The smallest value is shown

Histogram