Answers to additional health exercises

Chapter 6 Descriptive Statistics

Q1. Follow the procedures covered in this chapter to generate appropriate descriptive statistics to answer the following questions:

(a) What percentage of respondents are female (*gender*)?

gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 female	150	55.4	55.4	55.4
	1 male	121	44.6	44.6	100.0
	Total	271	100.0	100.0	

In the sleep.sav file 55.4% of the sample was female.

(b) What is the average age of the sample?

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
age	248	18	84	43.87	12.684
Valid N (listwise)	248				

The average age of the sample was 43.87 years.

(c) What percentage of the sample indicated that they had a problem with their sleep (*problem*)?

problem problem with sleep?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 yes	117	43.2	43.5	43.5
	2 no	152	56.1	56.5	100.0
	Total	269	99.3	100.0	
Missing	System	2	.7		
Total		271	100.0		

43.5% of the sample indicated that they had a problem with their sleep.

(d) What is the median number of hours sleep per weeknight (*hourwnit*)

Statistics

hourwnit hours sleep/ week nights

N	Valid	270
	Missing	1
Mean		6.972
Median		7.000
Std. Deviation		1.0666
Minimum		3.0
Maximum		10.0

The median number of hours of sleep per weeknight reported by survey respondents was 7 hours.

Q2. Assess the distribution of scores on the Sleepiness and Associated Sensations Scale (*totSAS*) for people who feel that they do/do not have a sleep problem (*problem*).

(a) Are there any outliers on this scale that you would be concerned about?

Inspection of the scores on the histogram for each group reveal no clear outliers.

(b) Are scores normally distributed for each group?

Case Processing Summary

	problem problem with sleep?	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
totsas sleepy & assoc sensations scale	1 yes	111	94.9%	6	5.1%	117	100.0%
	2 no	138	90.8%	14	9.2%	152	100.0%

Descriptives

	problem problem with			Statistic	Std. Error
totsas sleepy & assoc sensations scale	1 yes	Mean		32.21	.781
		95% Confidence Interval for Mean	Lower Bound	30.66	
			Upper Bound	33.75	
		5% Trimmed Mean		32.54	
		Median		34.00	
		Variance		67.638	
		Std. Deviation		8.224	
		Minimum		10	
		Maximum		50	
		Range		40	
		Interquartile Range		10	
		Skewness		-.643	.229
		Kurtosis		.149	.455
	2 no	Mean		21.22	.817
		95% Confidence Interval for Mean	Lower Bound	19.60	
			Upper Bound	22.83	
		5% Trimmed Mean		20.89	
		Median		18.50	
		Variance		92.069	
		Std. Deviation		9.595	
		Minimum		5	
		Maximum		44	
		Range		39	
		Interquartile Range		16	
		Skewness		.493	.206
		Kurtosis		-.791	.410

Extreme Values

	problem problem with sleep?			Case Number	id Identification Number	Value
totsas sleepy & assoc sensations scale	1 yes	Highest	1	19	240	50
			2	18	234	47
			3	65	42	45
			4	73	89	45
			5	26	540	44[a]
		Lowest	1	152	537	10
			2	234	206	12
			3	8	45	12
			4	268	423	13
			5	139	289	13
	2 no	Highest	1	222	509	44
			2	111	55	43
			3	127	247	42
			4	180	52	40
			5	214	241	40[b]
		Lowest	1	250	211	5
			2	265	200	6
			3	255	546	7
			4	243	420	8
			5	229	59	8[c]

a. Only a partial list of cases with the value 44 are shown in the table of upper extremes.

b. Only a partial list of cases with the value 40 are shown in the table of upper extremes.

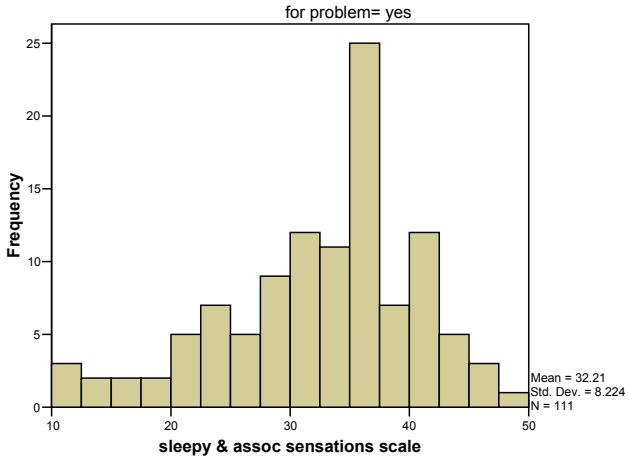
c. Only a partial list of cases with the value 8 are shown in the table of lower extremes.

Tests of Normality

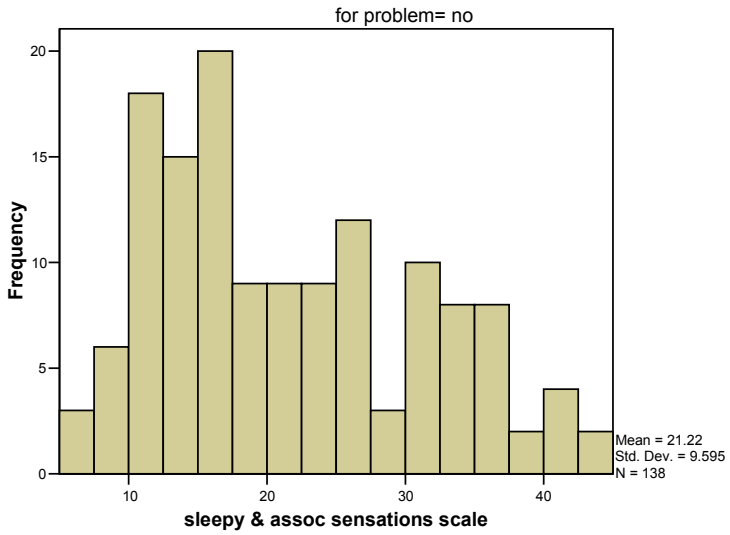
		Kolmogorov-Smirnov [a]			Shapiro-Wilk		
	problem problem with sleep?	Statistic	df	Sig.	Statistic	df	Sig.
totsas sleepy & assoc sensations scale	1 yes	.136	111	.000	.961	111	.002
	2 no	.131	138	.000	.948	138	.000

a. Lilliefors Significance Correction

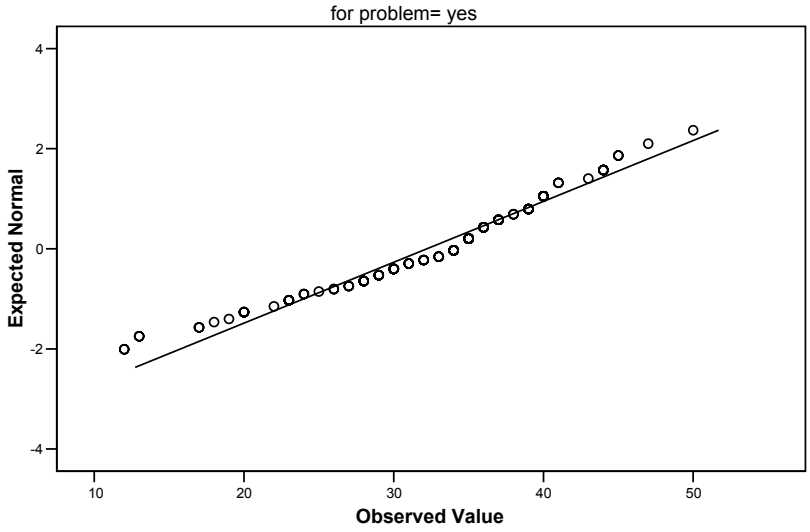
Histogram



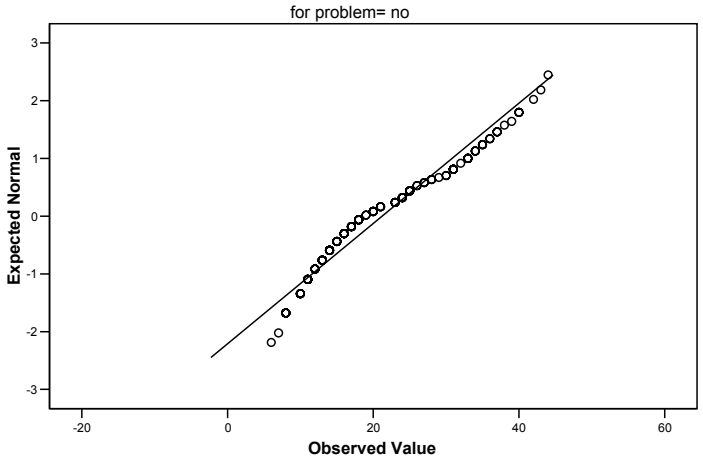
Histogram



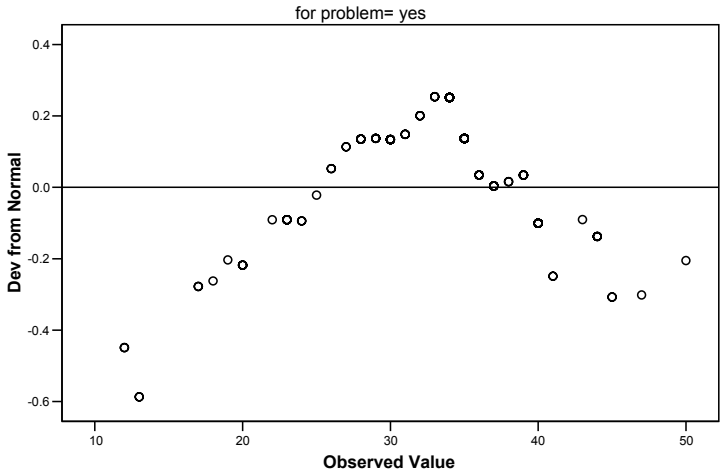
Normal Q-Q Plot of sleepy & assoc sensations scale

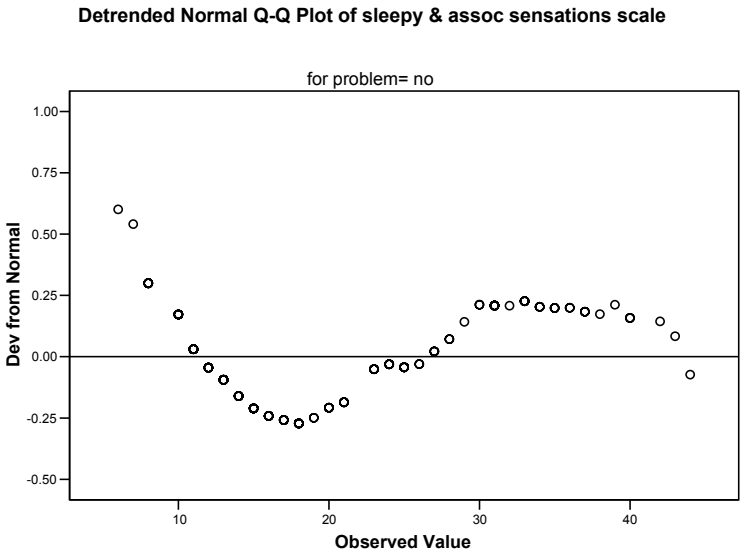


Normal Q-Q Plot of sleepy & assoc sensations scale



Detrended Normal Q-Q Plot of sleepy & assoc sensations scale





Inspection of the histograms indicated some deviation from normality for sleepiness scores for both groups. The tests of normality also indicated a significant departure from normality (with significant results for the Kolmogorov-Smirnov and Shapiro-wilk tests).