

Bloomsburg University: Department of Psychology
Basic Statistics: Descriptive Statistics Report Example
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Following output is generated by running Analyze->Descriptive Statistics->Explore
 Insert “score” in the Dependent List variable box and “group” in the Factor List box and
 then click OK

Case Processing Summary

		Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
Score	1.00 noise	25	100.0%	0	.0%	25	100.0%
	2.00 quiet	20	100.0%	0	.0%	20	100.0%

The Descriptives output shown here was reformatted to place the groups into separate sets of columns. By default the two groups will be “stacked” in the table. The same information is presented

Descriptives

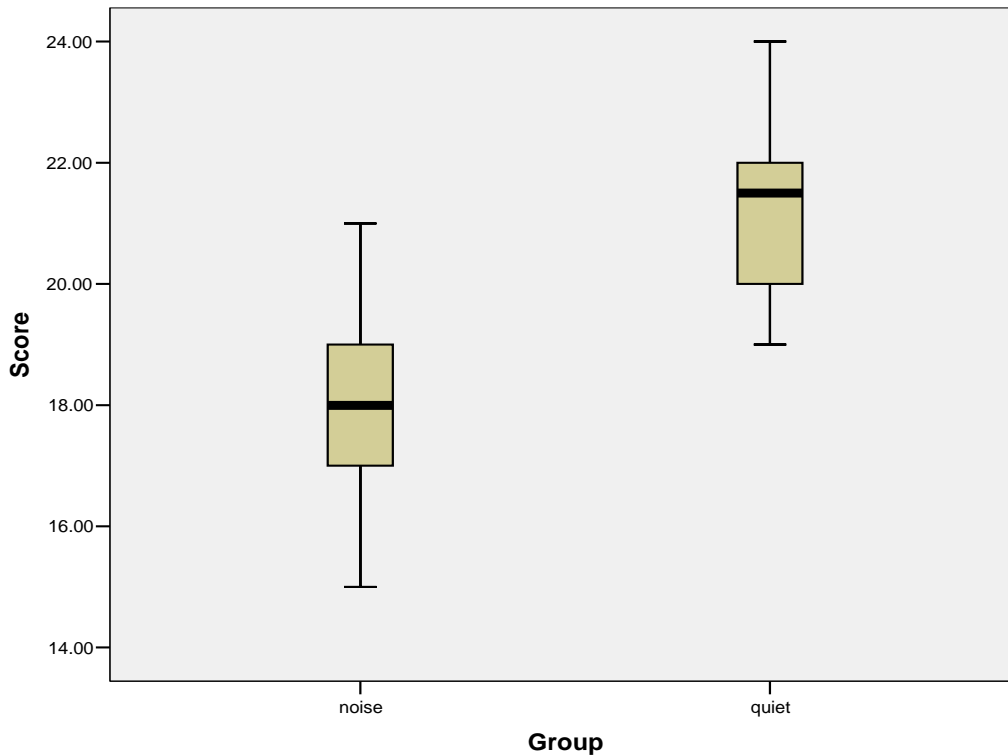
			Group			
			1.00 noise		2.00 quiet	
			Statistic	Std. Error	Statistic	Std. Error
Score	Mean		18.0000	.36515	21.4000	.29380
	95% Confidence Interval for Mean	Lower Bound	17.2464		20.7851	
		Upper Bound	18.7536		22.0149	
	5% Trimmed Mean		18.0000		21.3889	
	Median		18.0000		21.5000	
	Variance		3.333		1.726	
	Std. Deviation		1.82574		1.31389	
	Minimum		15.00		19.00	
	Maximum		21.00		24.00	
	Range		6.00		5.00	
	Interquartile Range		3.00		2.00	
	Skewness		-.134	.464	.087	.512
	Kurtosis		-.891	.902	-.664	.992

For purposes of calculating our effect size index, if the problem did not tell us to “Let $\sigma = 2$ ” we would need to obtain the standard deviation for the whole sample. To do this, we could either run explore again, removing “group” from the factor list box or simply run descriptives (go to Analyze->Descriptive Statistics->Descriptives) on “score”

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Score	45	15.00	24.00	19.5111	2.34154
Valid N (listwise)	45				

This is the boxplot provided by SPSS as part of the explore output. Histograms and stem and leaf plots are also provided by default, but these aren't necessary for our purposes here.

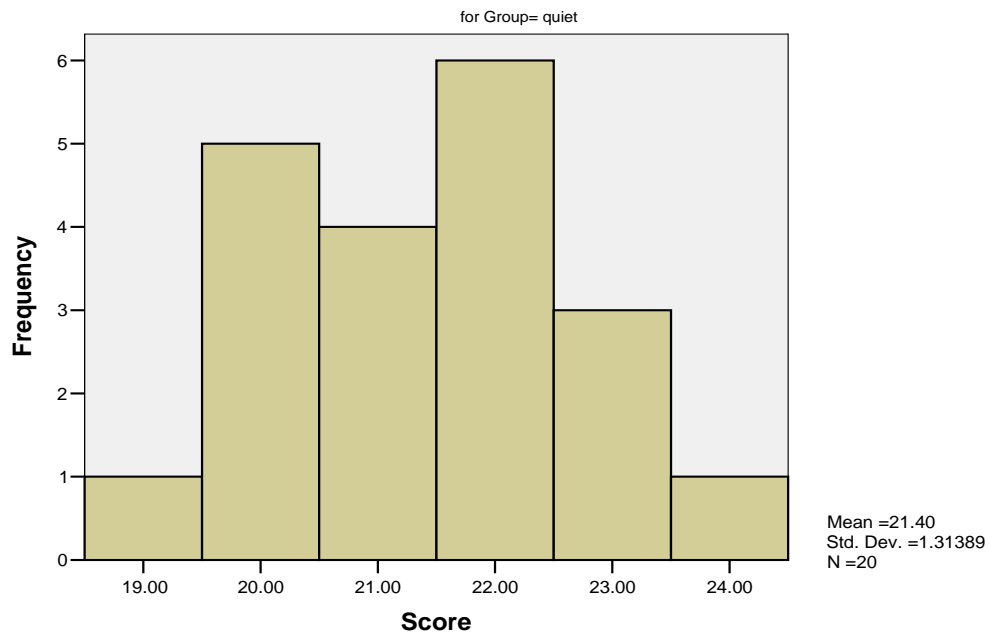


In writing a descriptive statistics report, you will want to be sure to list, in a table, your overall and group means, standard deviations, and counts (n per group) as a bare minimum.

Statistic	Total	Noise	Quiet
Mean	19.5	18	21.4
Median	20	18	21.5
Standard Deviation	2.3	1.8	1.3
Min	15	15	19
Max	24	21	24
25 th percentile	18	16.5	20
50 th percentile	21	19.5	22
N	45	25	20

Examining the two groups data reveals that the mean of the quiet group is higher than the noise group, thus the common sense notion that noise might impair test performance appears to be supported. The variability of the two groups appears similar, the standard deviations, ranges, and interquartile ranges for the two groups are very similar. Examining the box plot reveals that the noise group distribution clearly appears to be symmetrical however for the quiet group the distribution is less clear from the box plot. The longer tail from the top of the box would generally be consistent with positive skewness but the median shifted toward the top is generally consistent with negative skewness, so, we can't say with much certainty whether any skewness is present. However, looking at the histogram reveals a fairly symmetrical distribution. In terms of differences between the groups, Cohen's $d = |18 - 21.4| / 2 = 1.7$, which is an extremely large effect. Thus the 3.4 point difference between groups appears to be quite substantial.

Histogram



Histogram

