

Instructions for carrying out statistical procedures and tests using SPSS

These instructions are closely linked to the author's book:

Essential Statistics for the Pharmaceutical Sciences
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For all references to chapters or tables, see the above book.

**Using SPSS to obtain a 1-sided
95% confidence interval for the mean**

Using SPSS to obtain a 1-sided 95% confidence interval for the mean

Example: Table 5.3 Tetracycline content (%w/w) in 8 samples taken from a single batch.

The purpose of this analysis is to generate a lower limit for the content of authentic drug in a crude product. The figures are simply entered into a suitably labelled column in SPSS and a 95% C.I. is then obtained by following the menus:

Analyze / Descriptive Statistics / Explore ...

Transfer the appropriate column name into the 'Dependent List' box.

The default would be a 2-sided interval, but we can convert the procedure to an effectively one-sided format by calculating a 90% CI and ignoring one of the confidence limits (See Section 5.8). Click on 'Statistics ...', change the value in the 'Confidence Interval for Mean' box to 90 and click 'Continue'. Part of the output will be as below:

			Statistic	Std. Error
Purity	Mean		76.675	.5308
	90% Confidence Interval for Mean	Lower Bound	75.669	
		Upper Bound	77.681	
	5% Trimmed Mean		76.733	
	Median		77.300	
	Variance		2.254	
	Std. Deviation		1.5012	
	Minimum		73.9	
	Maximum		78.4	
	Range		4.5	
	Interquartile Range		2.1	
	Skewness		-.917	.752
	Kurtosis		.048	1.481

Next to 'Confidence interval for Mean', Lower and Upper confidence bounds are listed. If we only report the Lower bound, it will act as 95% confidence limit.

The tetracycline content of the batch is unlikely to be less than 75.67% and no maximum is reported.