•



Bootstrapping

This guide provides instructions on the bootstrapping technique – a resampling method for estimating the sampling distribution of a statistic as a means to generate a confidence interval. Bootstrapping is available from many JMP reports.

Bootstrapping in JMP Report Windows

1. From an analysis platform report window, **right-click** on the report of interest and select **Bootstrap**.

In this example we use the Distribution platform and bootstrap the statistics in the Summary Statistics report for the continuous variable 'Height'.

2. In the Bootstrapping window (below, left), enter the desired number of bootstrapped samples and click **OK**.

JMP creates a data table (below, right) with statistics for the original sample (excluded) and each of the bootstrap samples. The BootID• column identifies the bootstrap sample number.

🖶 Bootstrapping	×
Number of Bootstrap Samples Random Seed	<mark>2500</mark>
 □ Fractional Weights ✓ Split Selected Column ✓ Discard Stacked Table if Spl OK Cancel 	it Works Help

Distribution of height Bootst	1.00									- 0	×
File Edit Tables Rows Co	ls DOE Analyze	Graph	Tools	Add-Ins	View Window H	elp					
🛤 🔁 💕 🖬 🐰 🖬 🛍	s a 📜 🖨 🛙	1 🔛 🖿	Ľ <u>x</u> ≽■	V							
■ Distribution of height Bo ▷	۹ 🔪 💽										
Make Combined Data Table		Table	Y	BootID-	Lower 95% Mean	Mean	N	Std Dev	Std Err Mean	Upper 95% Mean	
Distribution	× 🛯 1	Big Class	height	0	61.19	62.55	40	4.24	0.67	63.91	
Columns (9/0)	2	Big Class	height	1	61.42	62.675	40	3.92	0.62	63.93	
Columns (9/0)	3	Big Class	height	2	62.04	63.3	40	3.95	0.62	64.56	
	4	Big Class	height	3	61.75	63.125	40	4.29	0.68	64.50	
Table ≭	5	Big Class	height	4	60.99	62.4	40	4.41	0.70	63.81	
BootID.	6	Big Class	height	5	61.15	62.675	40	4.77	0.75	64.20	
Lower 95% Mean	7	Big Class	height	6	60.25	61.7	40	4.53	0.72	63.15	
🖌 Mean	8	Big Class	height	7	61.44	62.55	40	3.48	0.55	63.66	
N	9	Big Class	height	8	61.77	63.025	40	3.93	0.62	64.28	
Std Dev Std Err Mean	10	Big Class	height	9	61.42	62.75	40	4.17	0.66	64.08	
Upper 95% Mean	11	Big Class	height	10	61.50	62.825	40	4.14	0.65	64.15	
opper 55% mean	12	Big Class	height	11	60.78	62.25	40	4.61	0.73	63.72	
 Rows 	13	Big Class	height	12	60.52	61.95	40	4.48	0.71	63.38	
dl rows 2,501	14	Big Class	height	13	61.20	62.55	40	4.21	0.67	63.90	
elected 0 xcluded 1	15	Big Class	height	14	62.12	63.275	40	3.61	0.57	64.43	
lidden 0	16	Big Class	height	15	60.52	61.875	40	4.23	0.67	63.23	
abeled 0	17	<									>

3. Use the **Distribution** platform to explore the statistics of interest for the bootstrap samples. Bootstrap percentile confidence intervals for different confidence levels are provided.

Hint: Click on the green triangle next to **Distribution** in the top left panel of the Bootstrap Results data table to launch the Distribution platform for all bootstrapped estimates.

Note: The Summary Statistics table was customized (under the Red Triangle) to only display the Mean, Std Dev, and N.

	⊿ Quantiles			🖉 💌 Summary S	Bootstrap Confidence Limits			
	100.0%	maximum	64.4	Mean	62.53998	Coverage	BC Lower	BC Upper
	99.5%		64.05	Std Dev	0.6574215	0.95	61.2	63.7282
	97.5%		63.761875	Std Err Mean	0.0131484	0.90	61.4	63.55
	90.0%		63.35	Upper 95% Mean	62.565763	0.80	61.625	63.325
	75.0%	quartile	63	Lower 95% Mean	62.514197	0.50	62.05	62.975
	50.0%	median	62.575	N	2500			
	25.0%	quartile	62.075	N Missing	0	Original Est	imate 6	2.55
	10.0%		61.675					
┑╷╒╡╤╡╀╿╿╿╎╿╿╿╿╿╿╿╿╿╞╕┑┑┘	2.5%		61.25					
60 61 62 63 64	0.5%		60.75					
	0.0%	minimum	59,275					

Visit Basic Analysis > Bootstrapping in JMP Help to learn more.

Big Class.jmp (Help > Sample Data Folder)

62.55

Table Style

Sort by Column..

Make Into Matrix Filter Where...

Format Column... Align Decimal Separator

Show Properties

Copy Column Copy Table

Simulate

Bootstrap

Make into Data Table

Make Combined Data Table

Columns

4.2423385

0.6707726

Summary Statistics

Upper 95% Mean 63.9067€

Lower 95% Mean 61.1932

Mean

N

Std Dev

Std Err Mean

N Missing