

## SPSS24 HELP SHEET: Mann-Whitney U test (using legacy dialogs)

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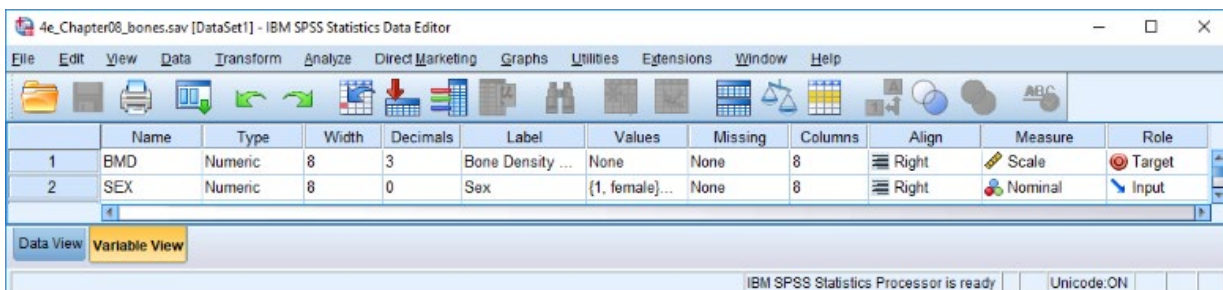
1. How to enter data to do a Mann-Whitney U test test.
2. How to do a Mann-Whitney U test test.

### 1. How to enter data to do a Mann-Whitney U test test.

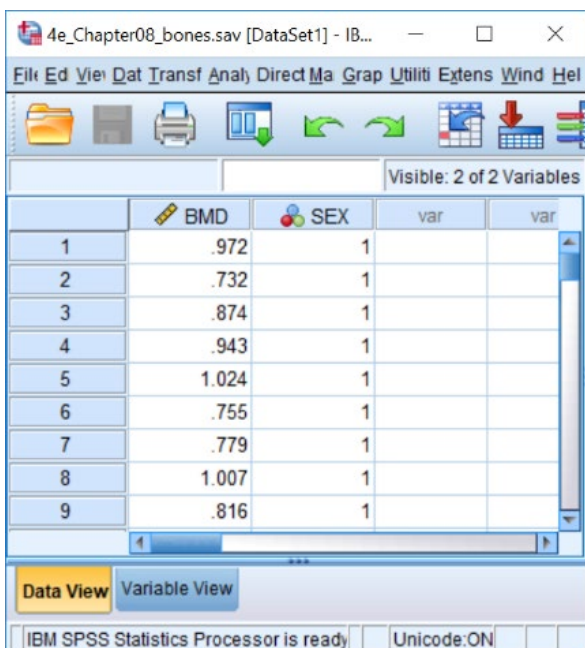
For general advice on data entry see the “How to enter data into SPSS” help sheet.

Mann-Whitney U test tests are used on unrelated data: Data for the dependent variable go in one column and data for the independent variable goes in another. In this example, the dependent variable is *BMD* and the independent variable is *SEX*. *BMD* is bone-density measurement measured in grams per square centimetre of the neck of the femur which is a scale level of measurement). *SEX* is measured at the nominal level: either 1 (value label = female) or 2 (value label = male).

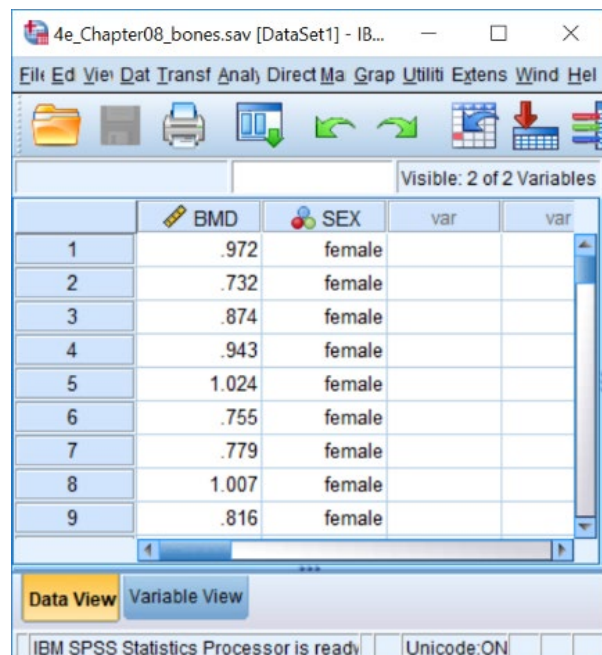
### Variable View



### Data View (View – Value Labels off)



### Data View (View – Value Labels on)

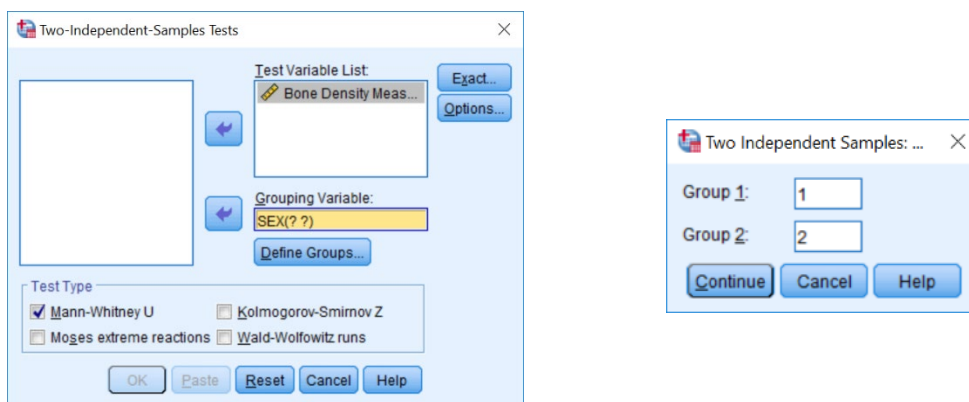


## 2. How to do a Mann-Whitney U test test...

To get SPSS to conduct a Mann-Whitney U test  
test : Open your data file.

Select: Analyze – Nonparametric Tests – Legacy Dialogs - 2 Independent Samples...  
This will bring up the **Two-Independent-Samples Tests** window.

Select the variable that you want to analyse, and send it to the **Test Variable List** box (in the example above this is *Bone Density Measurement*). Select the independent variable, and send it to the **Grouping Variable** box (in the example above this is Sex). Press the **Define Groups** button to bring up the Define Groups window (above right). Under **Group 1** type the number code for the first sample (in the example above this is 1). Under **Group 2** type the number code for the first sample (in the example above this is 2). Click **Continue** and then **OK**.



This will produce the following in the **Output** window.

Ranks				
	Sex	N	Mean Rank	sum of Ranks
Bone Density Measurement (g/square cm)	female	20	16.53	330.50
	male	20	24.48	489.50
	Total	40		

Test Statistics <sup>a</sup>	
	Bone Density Measurement (g/square cm)
Mann-Whitney U	120.500
Wilcoxon W	330.500
Z	-2.151
Asymp. Sig. (2-tailed)	.032
Exact Sig. [2*(1-tailed Sig.)]	.030 <sup>b</sup>

a. Grouping Variable: Sex

b. Not corrected for ties.

NB: Using this route, the U value that SPSS reports is lower value.

In summary the key information from the test is  
**U<sub>lower</sub>=120.5, n<sub>1</sub>=20, n<sub>2</sub>=20, P=0.032**