WEEK 7

An introduction to SPSS
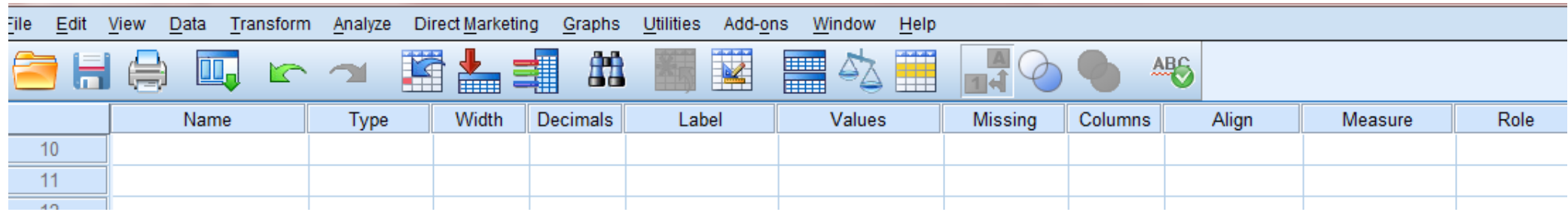
DATA ENTRY

DESCRIBING VARIABLES

DESCRIBING THE LABELS OF THE CATEGORIES

DATA IMPORT

## Basic Structure of SPSS

o SPSS data editor consists of rows and columns
  o Rows are cases and Columns are variables.

	Name	Type	Width	Decimals	Label	Values	Missing	Columns	Align	Measure	Role
10											
11											

Below the data view, you should click "variable view" to define variables

You can define;
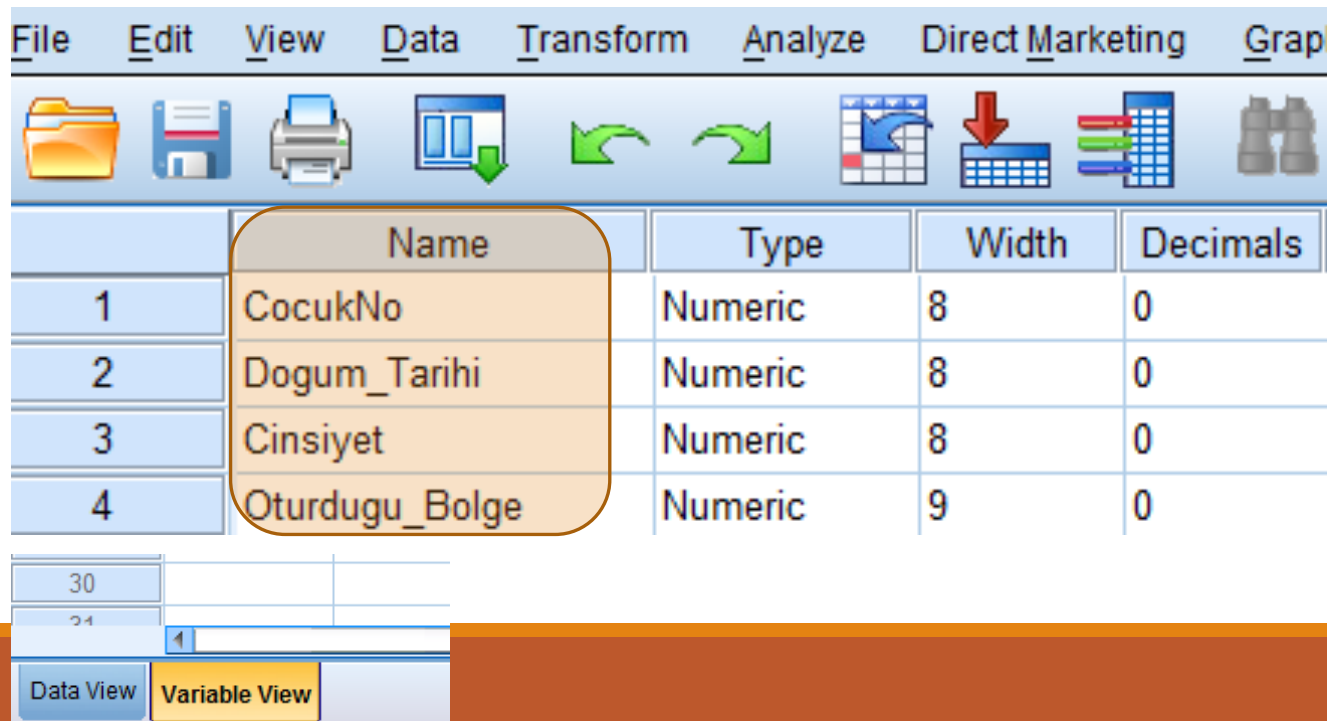
· **(name),**

· **(type),**

· **(width),**

· **(decimals),**

· **(labels),**

· **Level of measurement of a variable.**

30	
31	

Data View Variable View
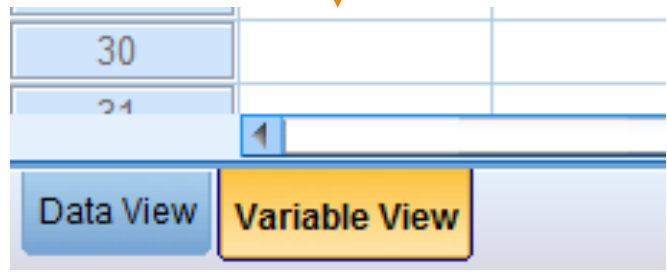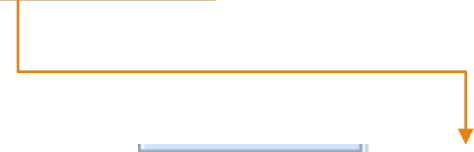
Rules to consider before defining the variables:

1- Variable names must start with a letter (you can't use a symbol or number)

2- You can't use space button.

3- (Don't use Turkish letters like: ş,ç,ö,ğ),

4- Each name of the variable should be different from each other

5- You can't use ALL, AND, BY, WQ, GE, NOT, OR, TO, WITH

File	Edit	View	Data	Transform	Analyze	Direct Marketing	Grapl

		Name	Type	Width	Decimals
1		CocukNo	Numeric	8	0
2		Dogum_Tarihi	Numeric	8	0
3		Cinsiyet	Numeric	8	0
4		Oturdugu_Bolge	Numeric	9	0

Each row belongs only to one variable.

30

Data View | Variable View

Variable Type

- To change variable type; Click «...» at the right side of the box written Numeric
- The default variable type, width and decimal are numeric, 8 and 2 respectively.

○ Most common used variable types are "numeric","string" and "date"
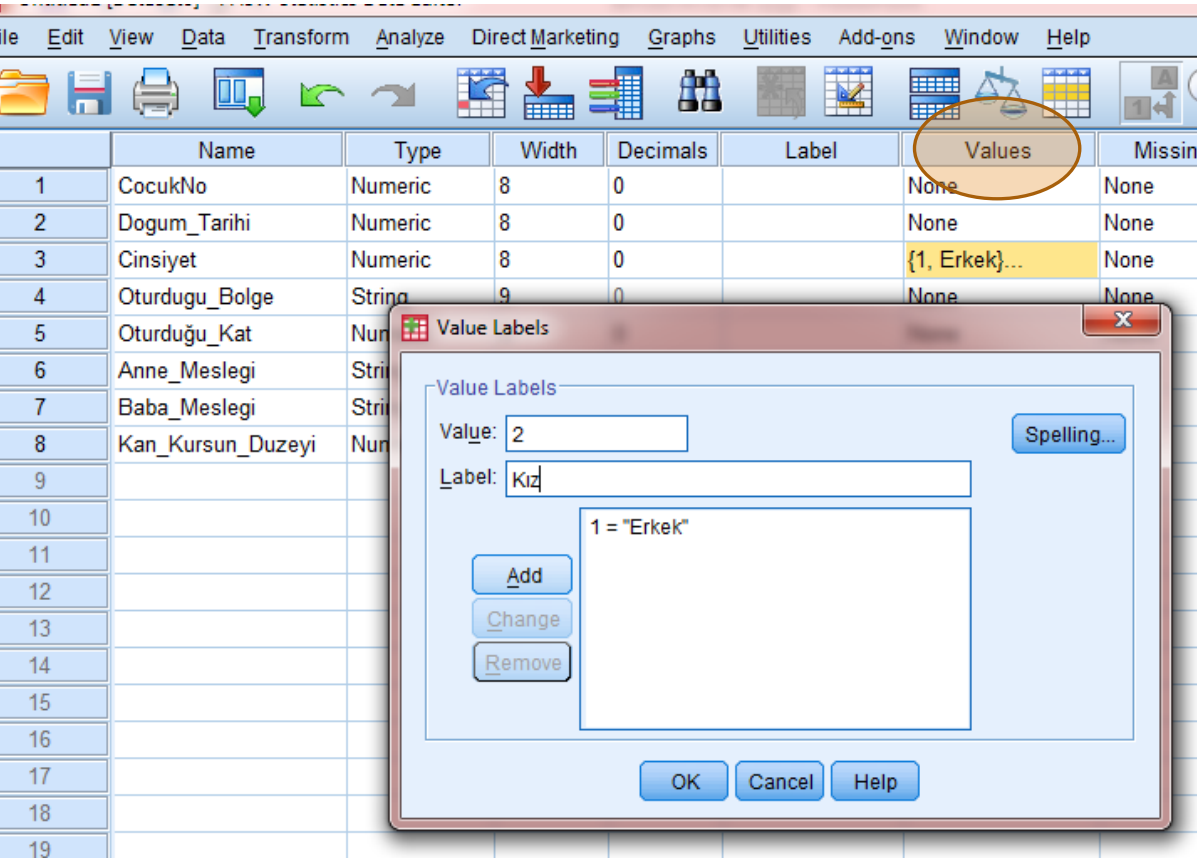
Label allows you to provide the variable with a longer and more complete description without any limitation

Creating "Value" Labels

❖ Used for describing the labels of the categories for Nominal or Ordinal (Categorical) Data
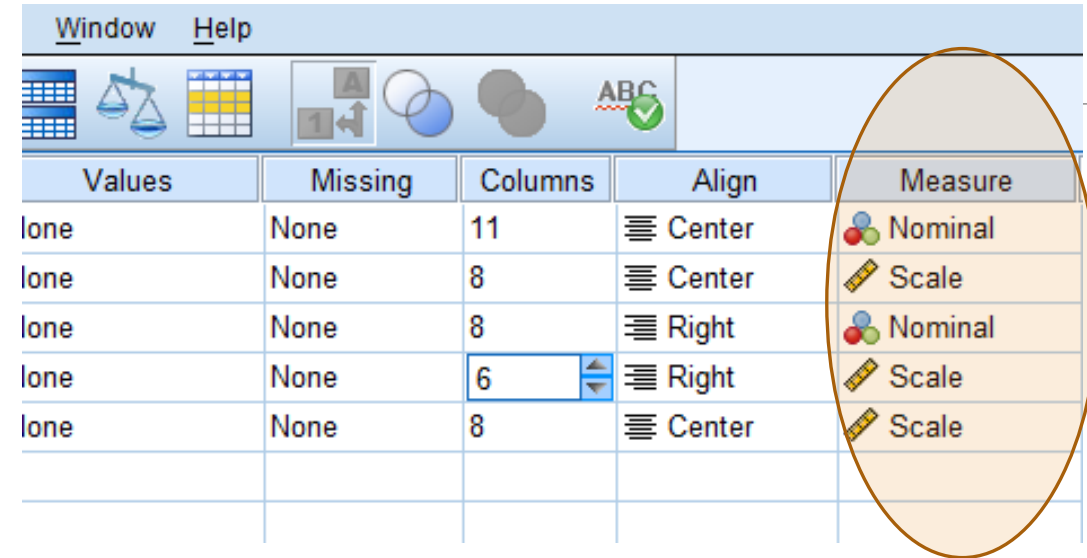
Let's say you have a variable named Sex, which has two subcategories: Male and Female. You need to specify a value label for each category: 1: Male, 2: Female)

To create a value label;

1- Select the related variable in your data set in variable view under value column.

2- In "Value labels" window, define the value and the label

3- Click "Add" button

Level of Measurement

Last three options in SPSS variable editor are **Columns, Align ve Measure,** respectively.

Measure is used to define level of measurement

- Scale : Continuous variables. (Age, Weight, Height, HB, etc.)
- Ordinal : Ordered data like education level
- Nominal: Categorical data like, Sex, eye clour, treatment etc.

EXAMPLE:

Suppose that you are investigating effect of a new probiotic supplement on villus height of broilers in three different epithelium tissue (duodenum, ileum, jejunum). So, you divided 18 broilers into three subgroups: Control, Standard feed, Std. Feed + probiotic supplement and after the trial, you measured the villus height of the epithelium tissue from these broilers. How do you think you should enter your data to SPSS?

No	Group	Tissue	Villus Height
1	Control	Duodenum	972
2	Control	Duodenum	957
3	Control	Ileum	986
4	Control	Ileum	994
5	Control	Jejunum	950
6	Control	Jejunum	906
7	Std. Feed	Duodenum	988
8	Std. Feed	Duodenum	906
9	Std. Feed	Ileum	965
10	Std. Feed	Ileum	963
11	Std. Feed	Jejunum	953
12	Std. Feed	Jejunum	953
13	Std. Feed + Probiotic	Duodenum	896
14	Std. Feed + Probiotic	Duodenum	918
15	Std. Feed + Probiotic	Ileum	829
16	Std. Feed + Probiotic	Ileum	1076
17	Std. Feed + Probiotic	Jejunum	1065
18	Std. Feed + Probiotic	Jejunum	1040

No	Group	Tissue	Villus Height
1	1	1	972
2	1	1	957
3	1	2	986
4	1	2	994
5	1	3	950
6	1	3	906
7	2	1	988
8	2	1	906
9	2	2	965
10	2	2	963
11	2	3	953
12	2	3	953
13	3	1	896
14	3	1	918
15	3	2	829
16	3	2	1076
17	3	3	1065
18	3	3	1040

	No	Group	Tissue	Villus_Height
1	1,00	1,00	1,00	972,00
2	2,00	1,00	1,00	957,00
3	3,00	1,00	2,00	986,00
4	4,00	1,00	2,00	994,00
5	5,00	1,00	3,00	950,00
6	6,00	1,00	3,00	906,00
7	7,00	2,00	1,00	988,00
8	8,00	2,00	1,00	906,00
9	9,00	2,00	2,00	965,00
10	10,00	2,00	2,00	963,00
11	11,00	2,00	3,00	953,00
12	12,00	2,00	3,00	953,00
13	13,00	3,00	1,00	896,00
14	14,00	3,00	1,00	918,00

Value Labels

Value: 1

Label: Control

1,00 = "Control"
2,00 = "Std. Feed"
3,00 = "Std. Feed + Probiotic"

Add
Change
Remove

Spelling...

OK   Cancel   Help

|	Name	Type	Width	Decimals	Label	Values	Missing	Columns	Align	Measure	Role
1	No	Numeric	8	2		None	None	8	Right	Scale	Input
2	Group	Numeric	8	2		None ...	None	8	Right	Nominal	Input
3	Tissue	Numeric	8	2		None	None	8	Right	Nominal	Input
4	Villus_Height	Numeric	8	2		None	None	8	Right	Scale	Input
5											

QUESTION-1:

➤ Calculate the descriptive statistics of Villus Height (considering no groups at all)

a) Analyze > Descriptive Statistics > Frequencies
b) Analyze > Descriptive Statistics > Descriptives
c) Analyze > Descriptive Statistics > Explore
d) Analyze > Tables > Custom Tables
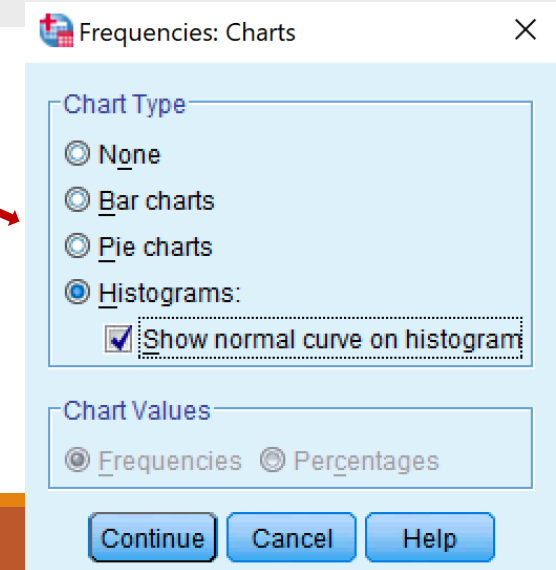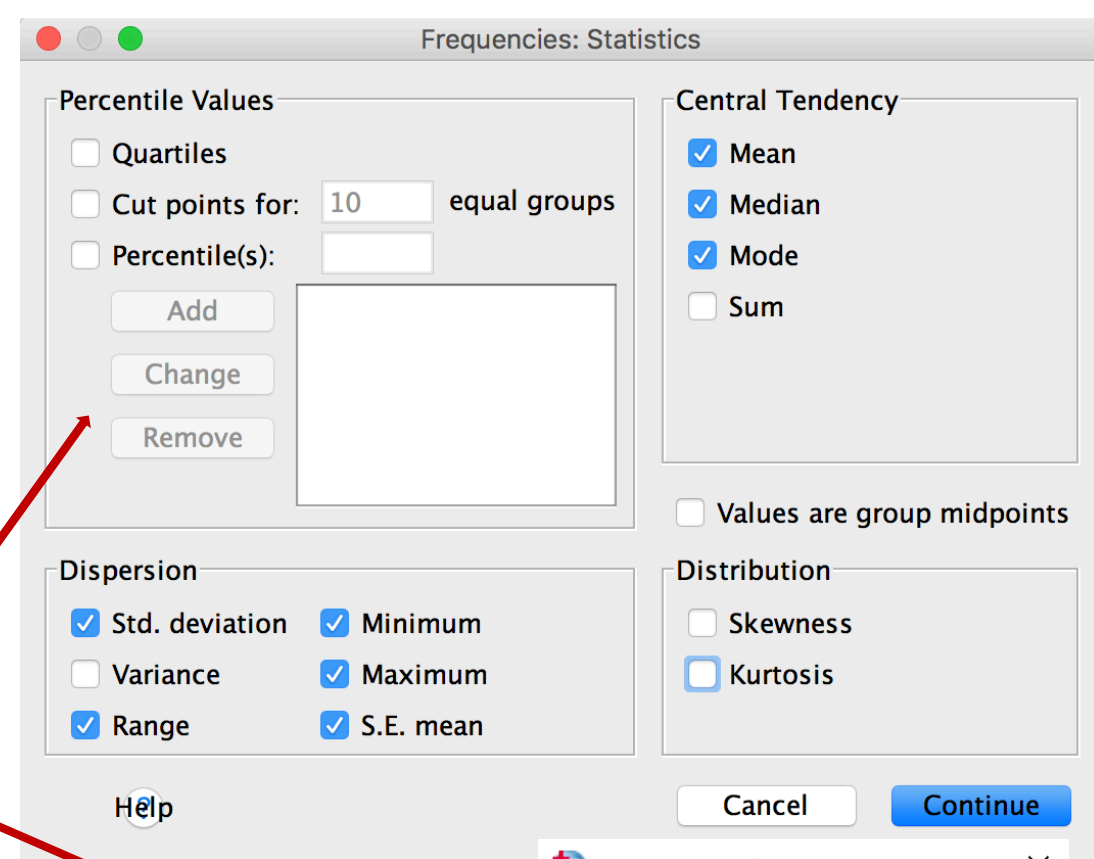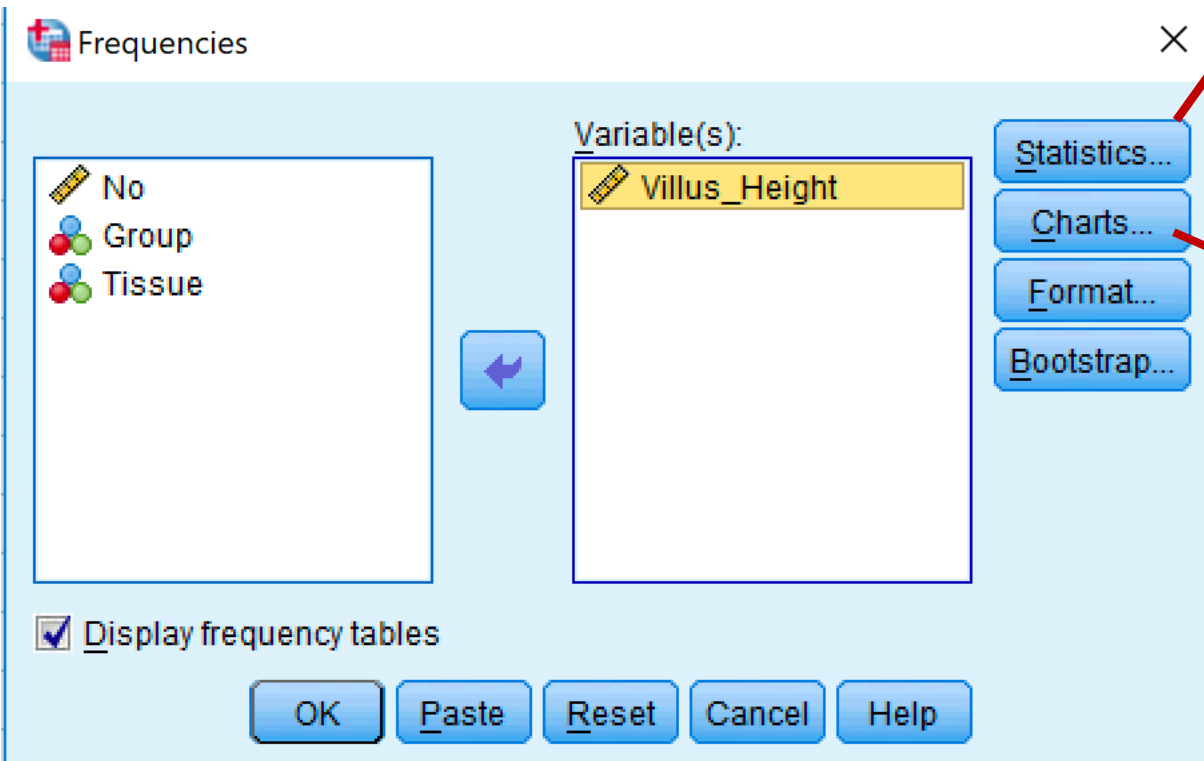
Output:

Statistics

Villus_Height

N	Valid	18
	Missing	0
Mean		962,0556
Std. Error of Mean		14,30971
Median		960,0000
Mode		906,00[a]
Std. Deviation		60,71096
Minimum		829,00
Maximum		1076,00

a. Multiple modes exist. The smallest value is shown
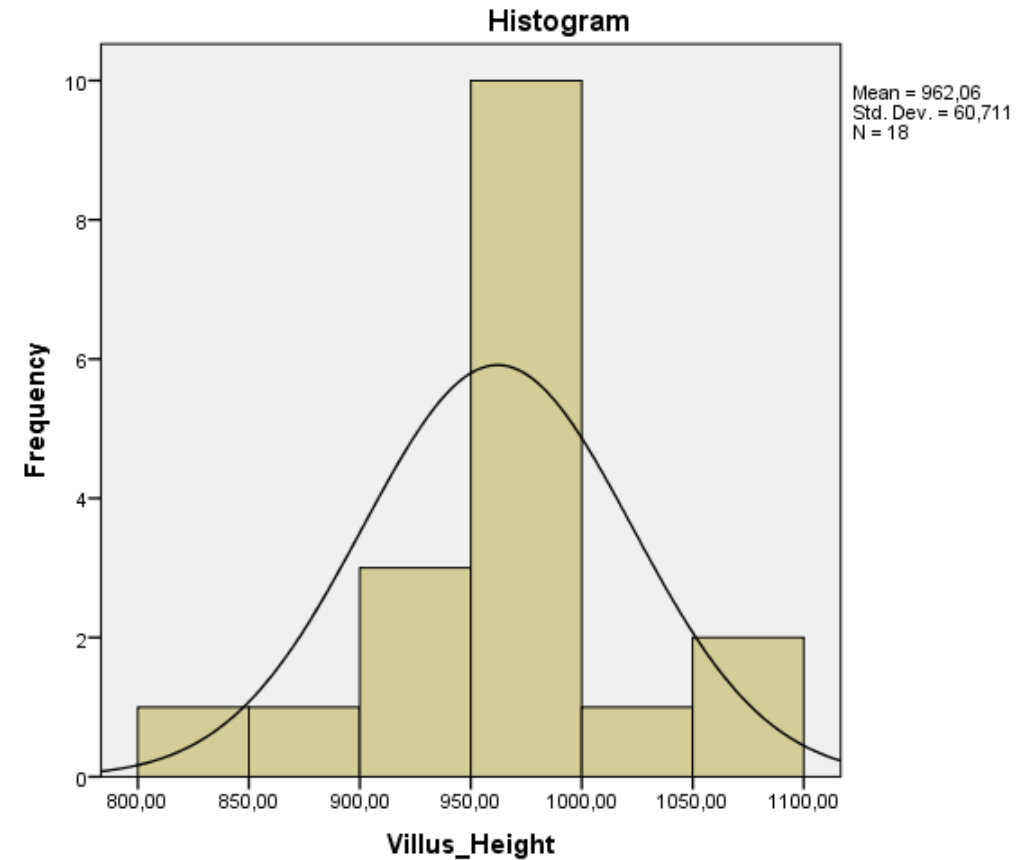
Histogram

Mean = 962,06
Std. Dev. = 60,711
N = 18

QUESTION -2:

➢ **Compute descriptive statistics <u>for each group and epithelial tissue seperately.</u>**

Options:

a) Calculate descriptive statistics via Explore Menu
b) Use Select Case command as a prior step.
c) **<u>Use Split File command as a prior step</u>**

Split File Command:

Split File splits the data **file** into separate groups for analysis based on the values of one or more grouping variables. If you select multiple grouping variables, cases are grouped by each variable within categories of the preceding variable on the Groups Based On list

QUESTION -2:
> **Compute descriptive statistics for each group and epithelial tissue seperately.**

STEP 1: Use Split file command
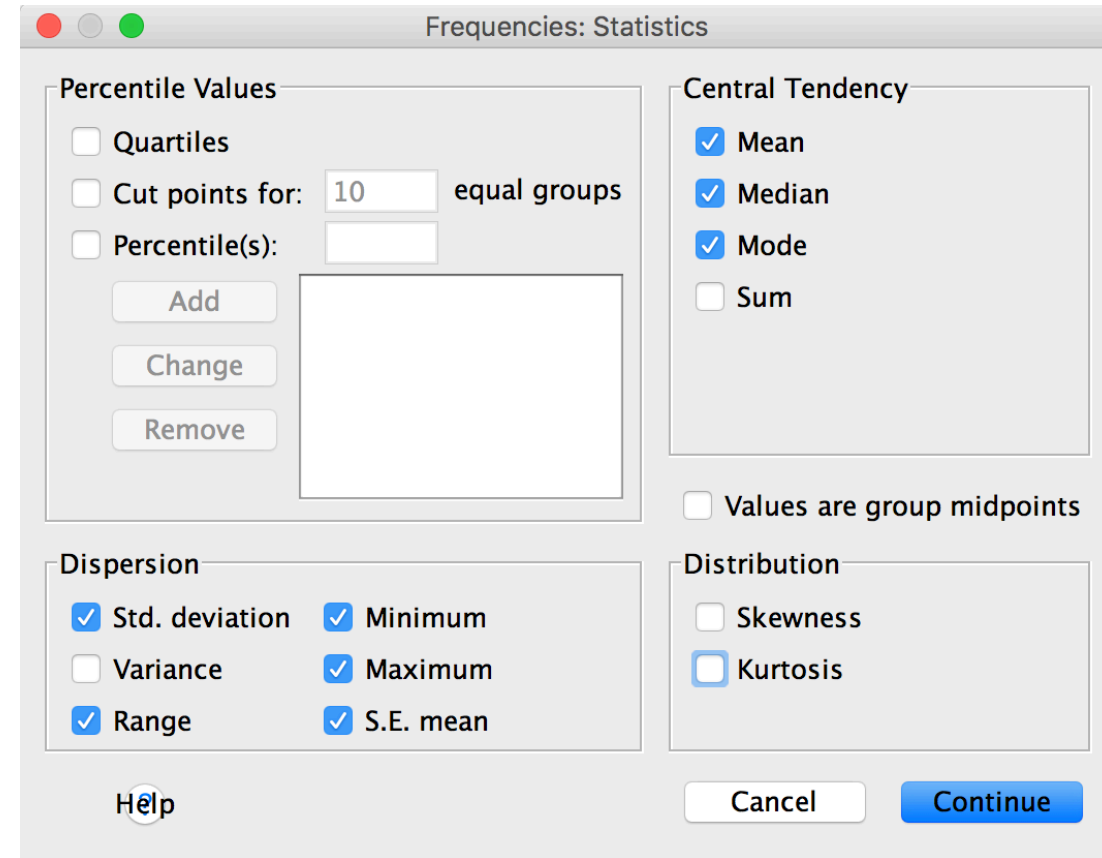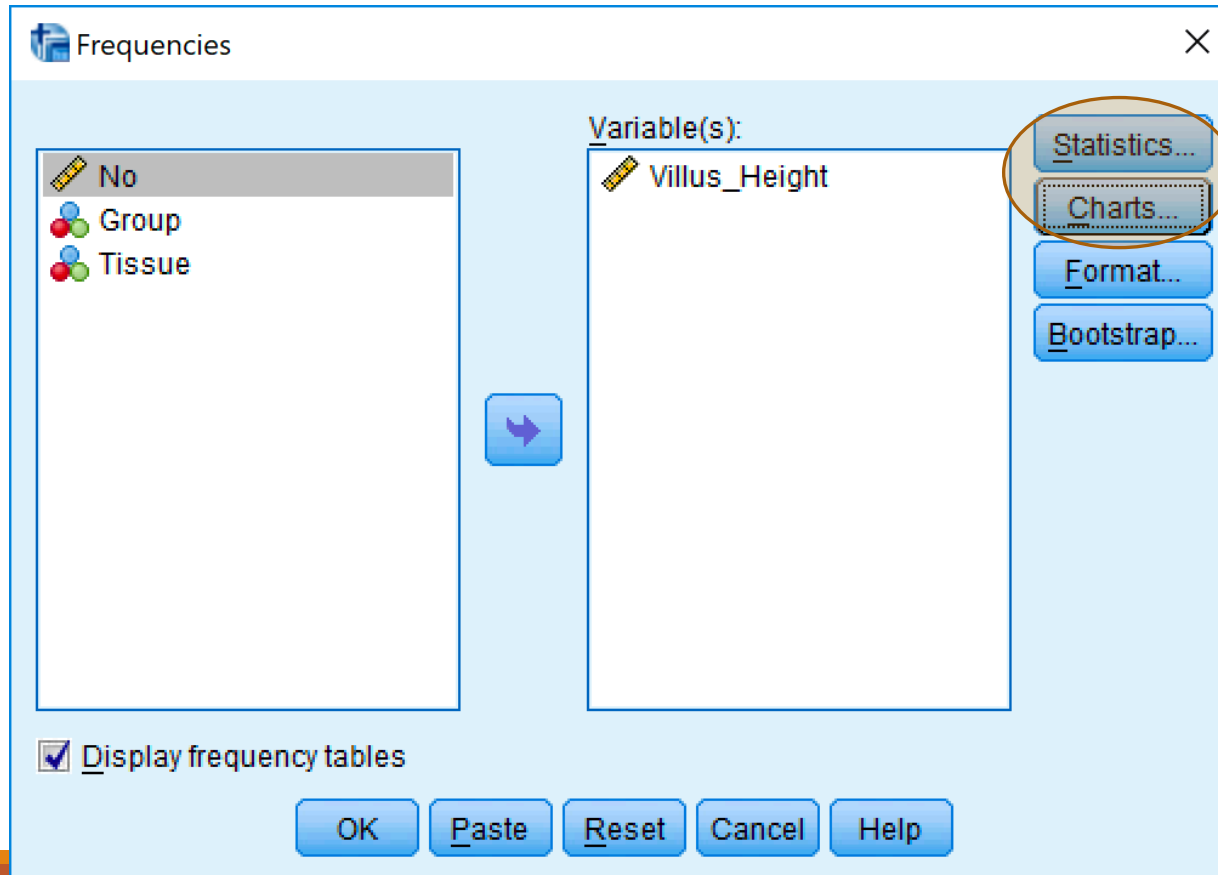
Data ---> Split File
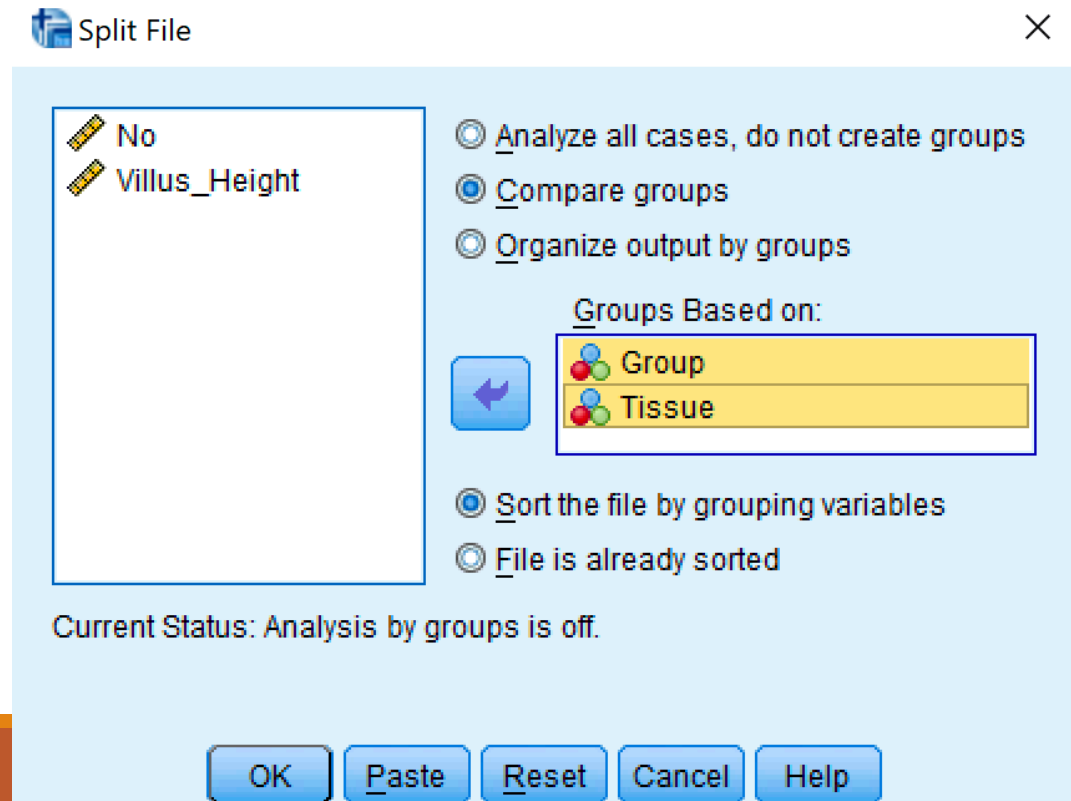
Adım 2: Compute Descriptive statistics

Analyze > Descriptive Statistics > Frequencies
Analyze > Descriptive Statistics > Descriptives
Analyze > Descriptive Statistics > Explore
Analyze > Tables > Custom Tables

OUTPUT:

Control

Duodenum	N	Valid	2
		Missing	0
	Mean		964,5000
	Std. Error of Mean		7,50000
	Median		964,5000
	Mode		957,00[a]
	Std. Deviation		10,60660
	Minimum		957,00
	Maximum		972,00
Ileum	N	Valid	2
		Missing	0
	Mean		990,0000
	Std. Error of Mean		4,00000
	Median		990,0000
	Mode		986,00[a]
	Std. Deviation		5,65685
	Minimum		986,00
	Maximum		994,00
Jejunum	N	Valid	2
		Missing	0
	Mean		928,0000
	Std. Error of Mean		22,00000
	Median		928,0000
	Mode		906,00[a]
	Std. Deviation		31,11270
	Minimum		906,00
	Maximum		950,00

Std. Feed

Duodenum	N	Valid	2
		Missing	0
	Mean		947,0000
	Std. Error of Mean		41,00000
	Median		947,0000
	Mode		906,00[a]
	Std. Deviation		57,98276
	Minimum		906,00
	Maximum		988,00
Ileum	N	Valid	2
		Missing	0
	Mean		964,0000
	Std. Error of Mean		1,00000
	Median		964,0000
	Mode		963,00[a]
	Std. Deviation		1,41421
	Minimum		963,00
	Maximum		965,00
Jejunum	N	Valid	2
		Missing	0
	Mean		953,0000
	Std. Error of Mean		,00000
	Median		953,0000
	Mode		953,00
	Std. Deviation		,00000
	Minimum		953,00
	Maximum		953,00

Std. Feed + Probiotic

Duodenum	N	Valid	2
		Missing	0
	Mean		907,0000
	Std. Error of Mean		11,00000
	Median		907,0000
	Mode		896,00[a]
	Std. Deviation		15,55635
	Minimum		896,00
	Maximum		918,00
Ileum	N	Valid	2
		Missing	0
	Mean		952,5000
	Std. Error of Mean		123,50000
	Median		952,5000
	Mode		829,00[a]
	Std. Deviation		174,65537
	Minimum		829,00
	Maximum		1076,00
Jejunum	N	Valid	2
		Missing	0
	Mean		1052,5000
	Std. Error of Mean		12,50000
	Median		1052,5000
	Mode		1040,00[a]
	Std. Deviation		17,67767
	Minimum		1040,00
	Maximum		1065,00