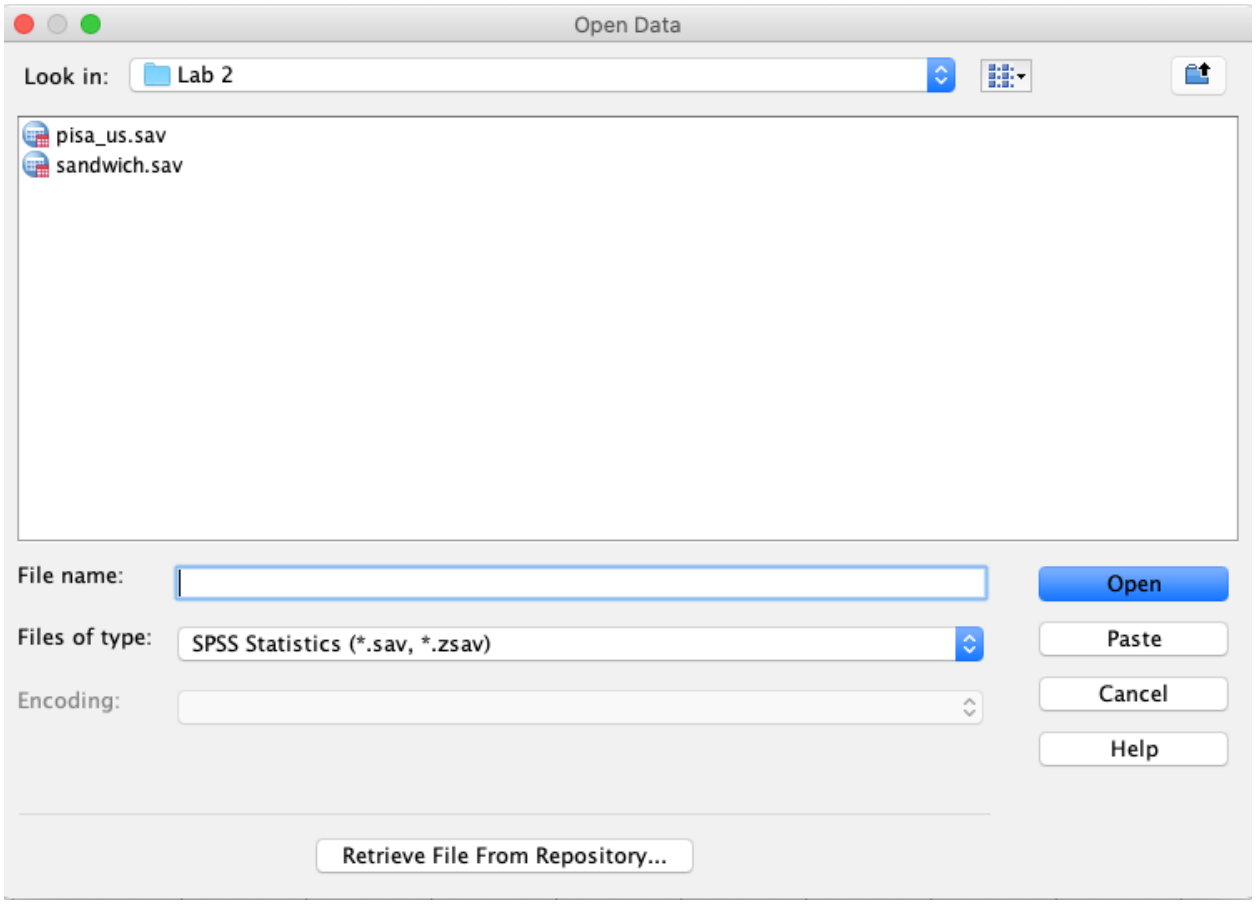
Descriptive Statistics with SPSS

Dataset: sandwich.sav

Open the dataset in spss. **File -> Open -> Data -> find the file location (make sure you have the right type of file selected -> Open**



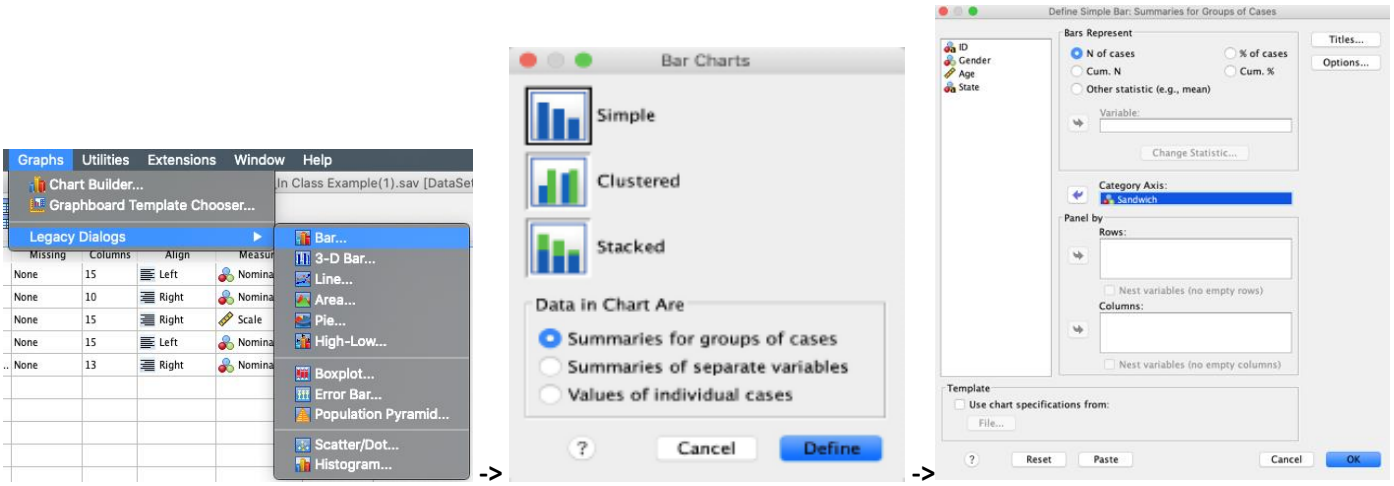
Exploring the data

1. Go to "Variable View" to fill out the table below

Variable	Categorical or Continuous?	Levels of Measurement	Original Question	Values
ID	Categorical	Nominal	ID	None
Gender	Categorical	Nominal	What's your Gender?	1 = Male 2 = Female 3 = Other
Age	Continuous	Scale	What is your age?	None
State	Categorical	Nominal	Which state or country are you from?	None
Sandwich	Categorical	Nominal	Which brand has THE BEST sandwich?	1 = Chick-fil-la 2 = Shake-Shack 3 = Burger King 4 = Wendy's

Creating graphs in SPSS

2. Create a bar chart: **Graphs -> Legacy Dialogs -> Bar -> Choose "Summaries for groups of cases" -> Define -> move variable "Sandwich" to Define Category Axis -> Paste.**



3. Highlight your syntax and click the Run button (the green triangle). Copy and paste a screenshot of your syntax and a screenshot of your bar chart below.

*Syntax1 - IBM SPSS Statistics Syntax Editor

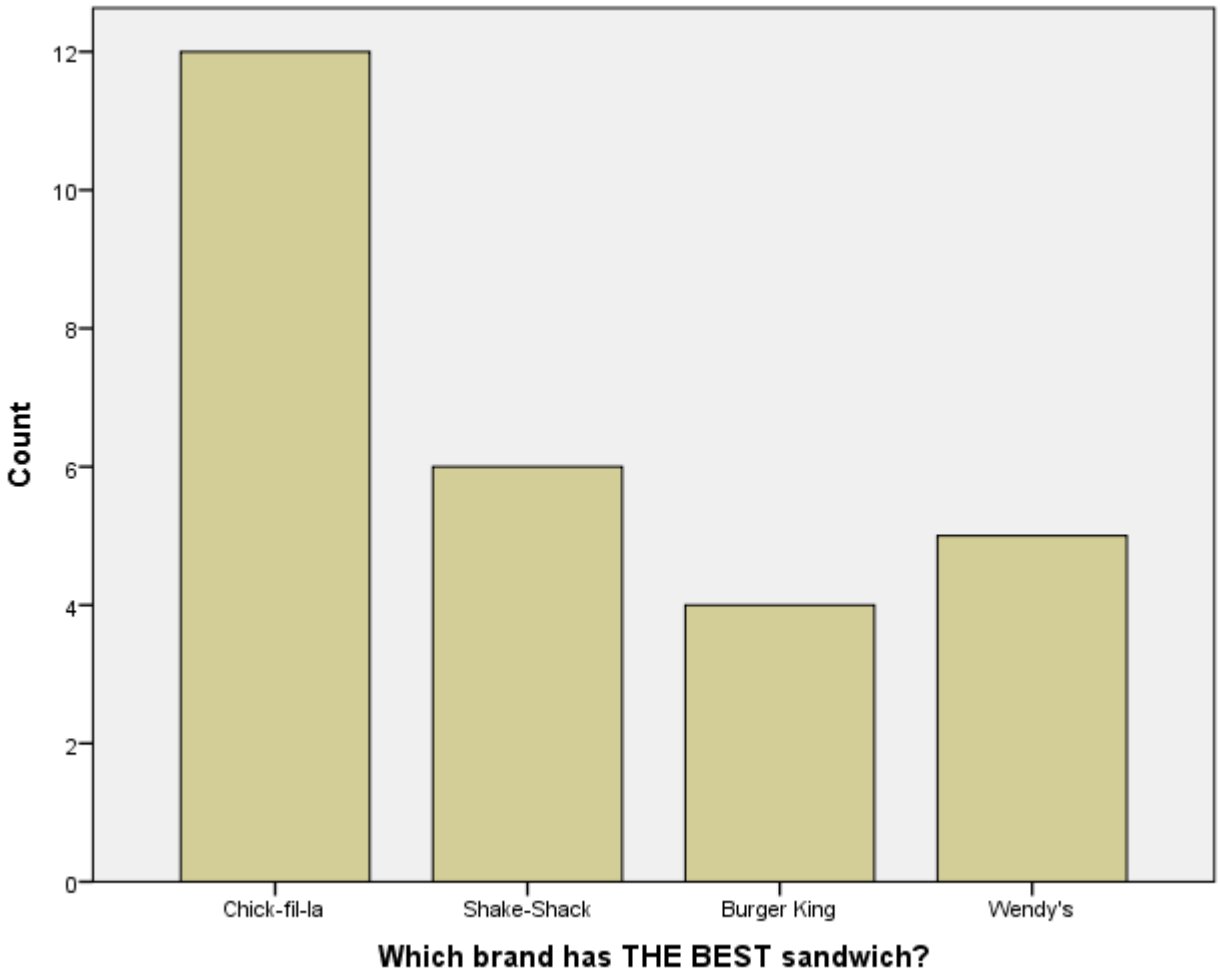
File Edit View Data Transform Analyze Direct Marketing Graphs Utilities Add-ons Run Tools Window Help

Active: DataSet1

DATASET ACTIVATE
GRAPH

```
1
2
3
4
5
```

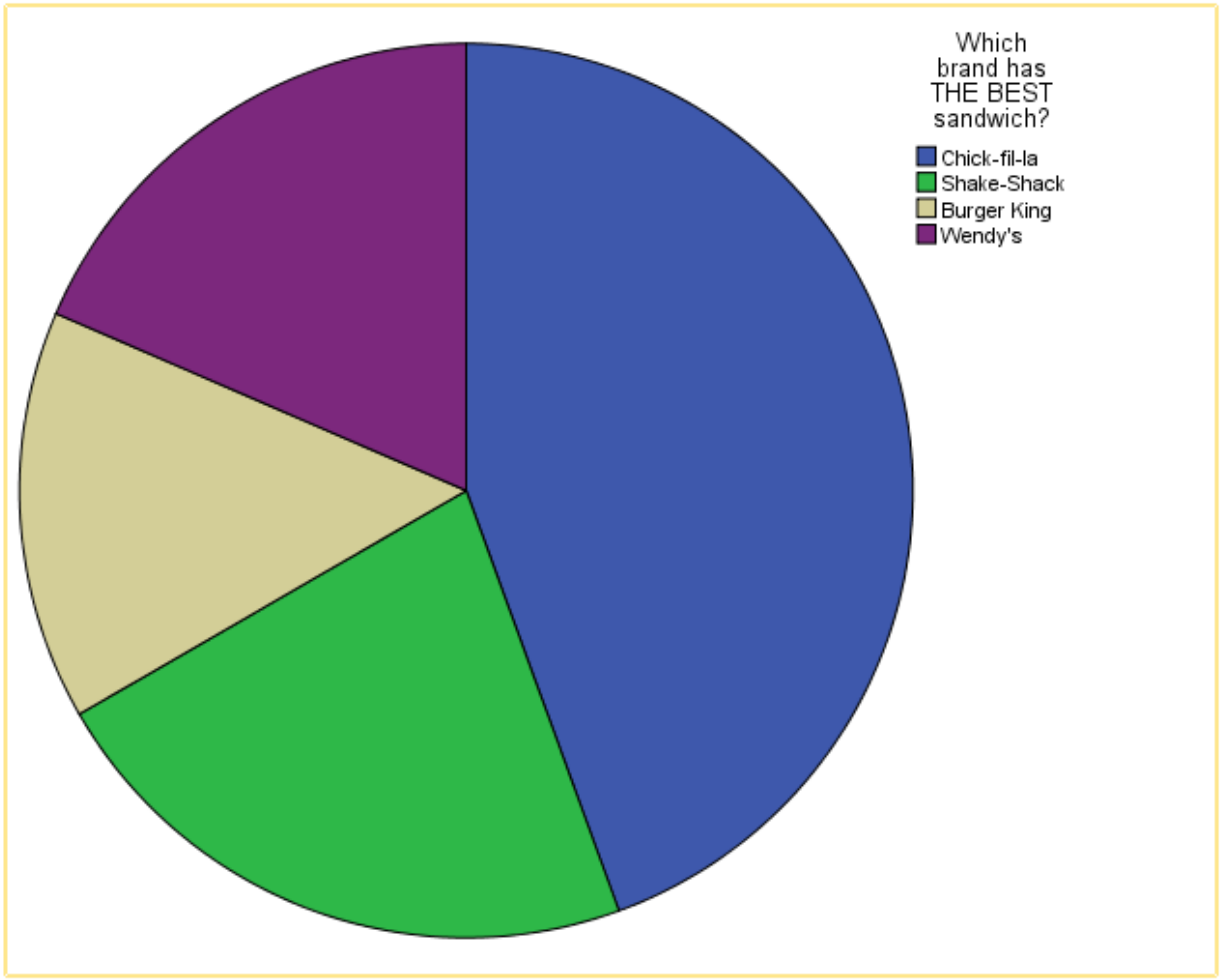
```
DATASET ACTIVATE DataSet1.
GRAPH
  /BAR(SIMPLE)=COUNT BY Sandwich.
```



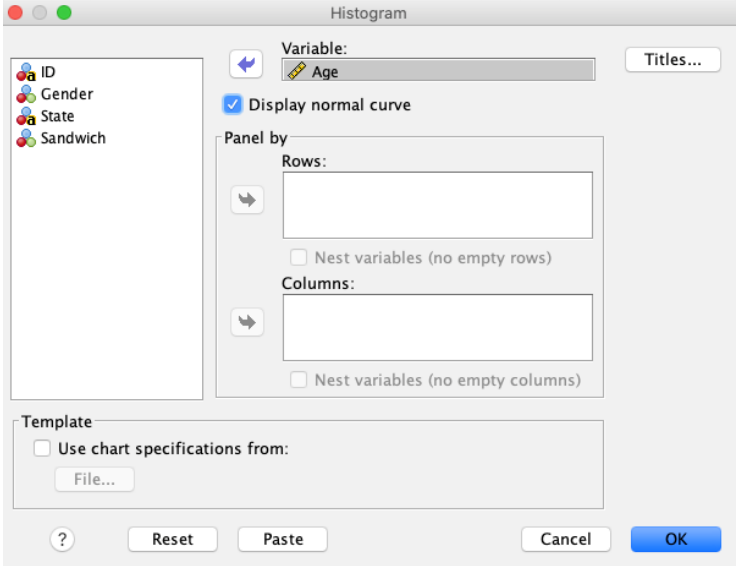
4. Create a pie chart: **Graphs -> Legacy Dialogs -> Pie -> Choose "summaries for groups of cases" -> Define -> move variable "sandwich" to Define slices by -> Paste**

5. Highlight your syntax (just the new lines) and click the Run button. Copy and paste a screenshot of your syntax and a screenshot of your pie chart below.

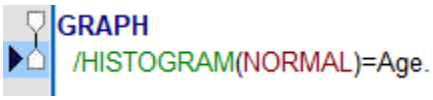
```
GRAPH
/PIE=COUNT BY Sandwich.
```

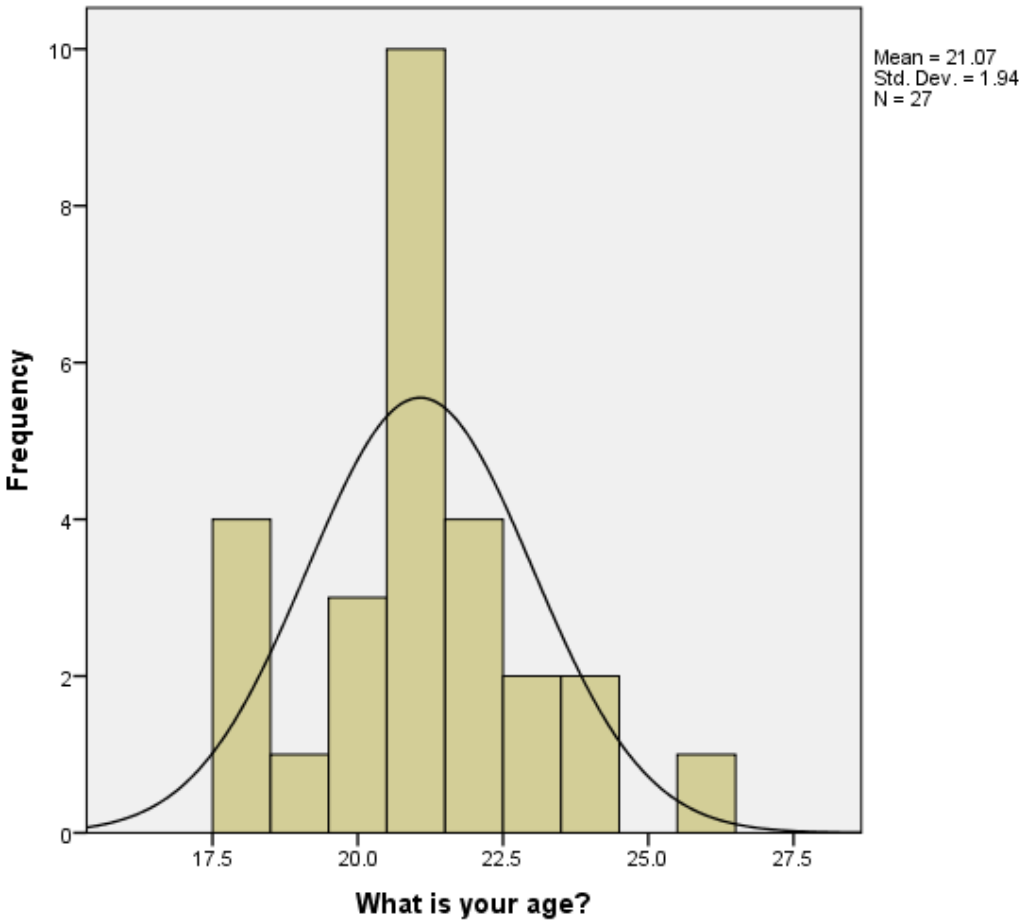


6. Create a frequency histogram: **Graphs -> Legacy Dialogs -> Histogram -> move variable "Age" to Variable -> Check Display normal curve -> Paste.**



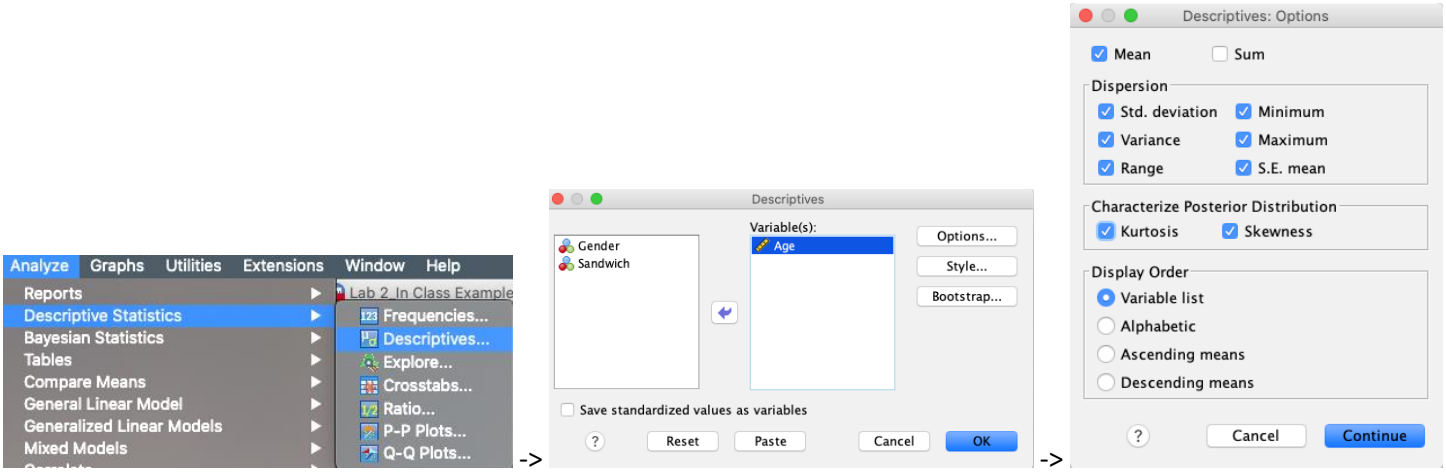
7. Highlight your syntax and hit the Run button. Copy and paste a screenshot of your syntax and a screenshot of your histogram below.




Mean = 21.07
Std. Dev. = 1.94
N = 27
Frequency
10
8
6
4
2
0
17.5
20.0
22.5
25.0
27.5
What is your age?

Descriptive Statistics in SPSS

8. Get your descriptive statistics: **Analyze -> Descriptives -> Move variable "Age" to Variables -> Click Options -> Choose different statistics -> Continue -> Paste**



9. Highlight your syntax and hit the Run button. Copy and paste a screenshot of your syntax and a screenshot of your output table below.

```
DESCRIPTIVES VARIABLES=Age
  /STATISTICS=MEAN STDDEV VARIANCE RANGE MIN MAX SEMEAN KURTOSIS SKEWNESS.
```

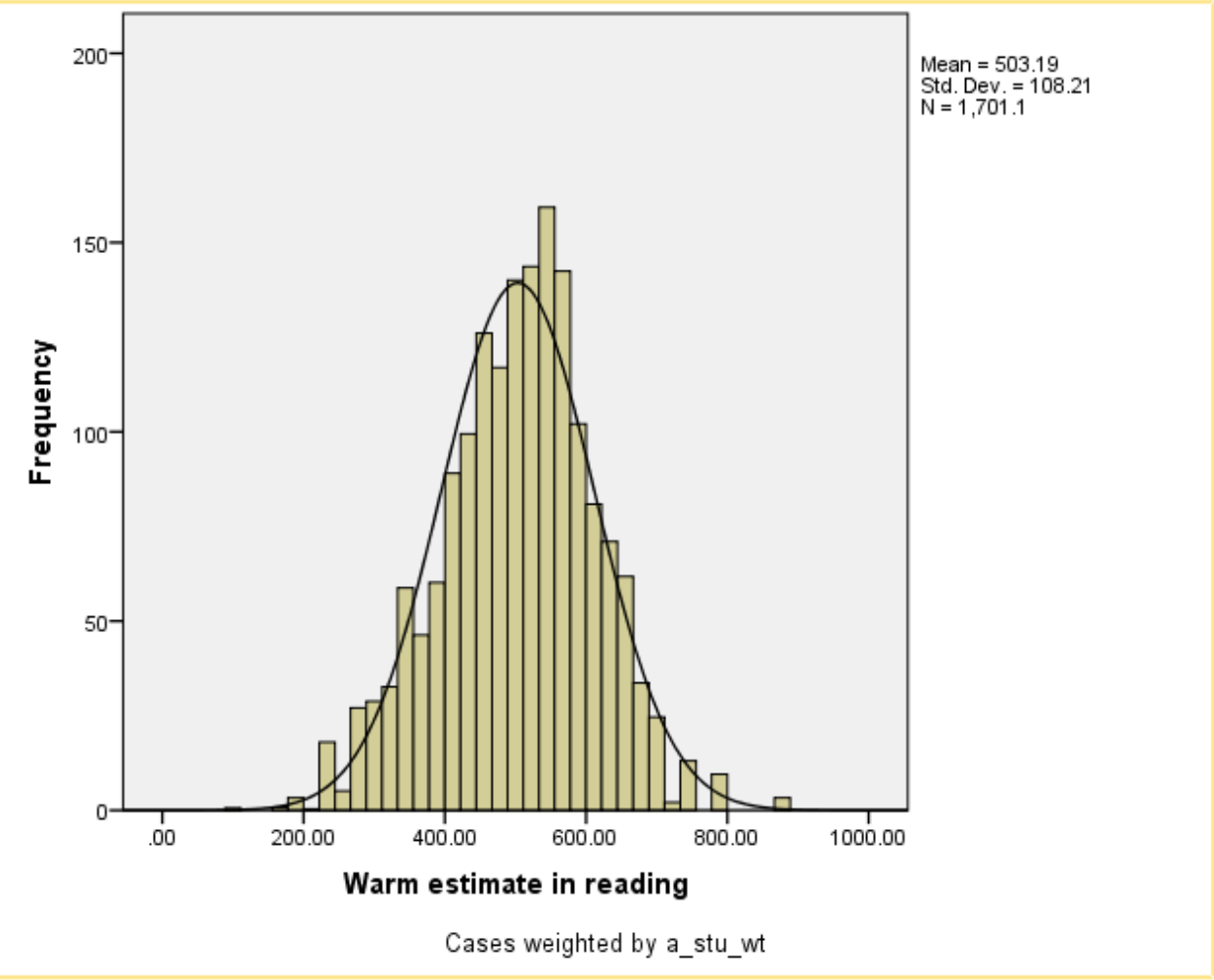
Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
What is your age?	27	8	18	26	21.07	.373	1.940	3.764	.331	.448	.539	.872
Valid N (listwise)	27											

Interpreting Results

10. Open datafile : pisa_us.sav

11. Create a histogram and get the descriptive statistics for the variable **wleread** (Warm estimate in reading – variable 290). Take a screenshot of your histogram and output table and paste them below.



Descriptive Statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Warm estimate in reading	1701	778.14	109.17	887.31	503.1929	2.62363	108.21020	11709.446	-.171	.059	.127	.119
Valid N (listwise)	1701											

12. Describe the shape of the data (symmetrical? Positively/negatively skewed? Unimodal/bimodal/multimodal?)

    The data is symmetrical and Unimodal.

13. What are the mean, median and mode?

    Mean = 503.1929

    Median = 510.72

    Mode = 558.62

14. Describe the variability of the data (variance or standard deviation).

    The data had a standard deviation of 108.21.

15. What are the skewness and Kurtosis?

    Skewness = -0.171

    Kurtosis = 0.127

16. Is the data normally distributed? (general rules for normality: -1 < skewness < 1; -1 < kurtosis < 2)

    The data is normally distributed, inferred from the skewness and kurtosis results