Practical Regression: Noise, Heteroskedasticity, and Grouped Data

CAR_SALES.sav Example

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Frequency Command

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Frequency Output

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Measures of Central Tendency and Measures of Dispersion for a Single Group

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Running the Measures of Central Tendency and Dispersion for a Single Group Command on SPSS

Frequency Distributions for Multiple Variables

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Frequency

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Determining Percentile Ranks

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Conclusion

Descriptive statistics are fun and easy!

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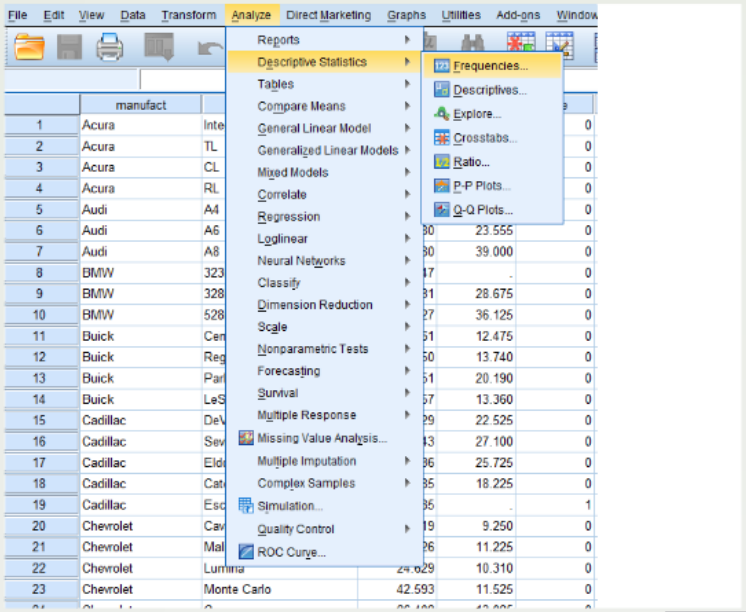
Frequency

-Provides more info than just a mean and standard deviation (SD)
-Able to determine percentile ranks
-Requires only 1 variable of any type



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CAR_SALES.sav Example

Located at: C:/Program Files/IBM/SPSS/Statistics/20/Samples/English/car_sales.sav

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Frequency Command

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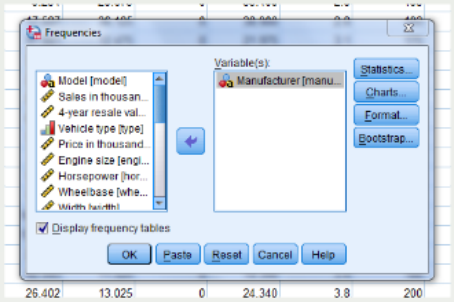
Click Analyze -> Descriptive Statistics -> Frequencies
Dialog Box pops up
Transfer the variable you want the frequency for (Manufacturer in this case)
Make sure "Display frequency tables" option is checked
Click "OK" for your output



Frequency Output

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2 Sections:
-Number of records with valid data (in this case 157 records)
-Cumulative frequency distribution for each variable selected

Five columns:
1. A row for each value of the variable and additional rows for Total and Missing data
2. Frequency of each value
3. Percentage of all records for each value (including missing data)
4. Percentage of records for each value (not including missing data)
5. Cumulative percentages (last one will always be 100%)

Determining Percentile Ranks

Now using the variable PRICE
Analyze -> Descriptive Statistics -> Frequencies
Move "Price in thousands" to variables in dialog box
Click on "Statistics:
Click on "Quartiles," "Percentile(s)," "Mean," & "Median"
Input "80.0" for Percentiles (80th percentile)
Click "Add" to add it to the list
Click "Continue" and then "OK"

Output: Added rows for each piece of info you asked for
Hint: "Quartiles" means 25th, 50th, 75th percentiles

Frequency Distributions for Multiple Variables

Use SAMPLE.sav data set from Chapter 1

Analyze -> Descriptive Statistics -> Crosstabs
Move "training" variable into "Row(s)" box
Move "work" variable into "Column(s)" box
(If more than 2 variables, enter them into unlabeled box under "Layer")

Click on "Cells" button, then "Row," "Column," and "Total" percentages
Click "Continue" and then "OK"

Output: Each level of each variable gets a row/column
A "Total" row/column is also added
Each cell contains the number of participants
The percentages for each cell are also shown (adding up to 100% horizontally and vertically

Measures of Central Tendency and Measures of Dispersion for a Single Group

Measures of central tendency: mean, median, and mode
Measures of dispersion: range and standard deviation

Standard Deviation is the square root of variance

When you find a mean, you must also find standard deviation
When you find a median, you must also find range

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