



## Pivot Table and Instructions Excel 2010

**Purpose:** Pivot tables are useful for summarizing raw data stored in a spreadsheet. They allow you to summarize your data in different ways. This guide discusses how to create basic frequency tables, as well as cross-tab tables.

### Steps:

1. Open an existing data file. Data should be formatted with variable names in Row 1. Each subsequent row should correspond to a new person/case.
2. Highlight all of the data including the variable names. Under the Home menu, choose 'Format as Table'. The table format not only allows you to create pivot tables, but it also provides drop-down arrows with options to sort or filter data. You may find this function useful for reviewing your data. (NOTE: to remove table formatting, right click anywhere on your Table. From the menu that appears, choose "Table...", then choose "Convert to Range".)
3. From the Insert menu, choose 'pivot table'.
4. Under Select a table or range, highlight all of the cells that contain data, including the row containing variable names.
5. Select OK. A new worksheet will be created containing your pivot table data.

The screenshot shows the Microsoft Excel 2010 interface. The ribbon is set to 'INSERT'. The 'PivotTable' task pane is visible on the left. The spreadsheet data is as follows:

	A	B	C	D	E	F
1	ClientID	CallDate	Age	Employment	Gender	Ethnicity
2	ABCD1	1/1/2013	37	Part Time	Male	Not Hispanic/Latino
3	ABCD2	1/2/2013	42	Part Time	Trans	Hispanic/Latino
4	ABCD3	1/3/2013	25	Full Time	Female	Not Hispanic/Latino
5	ABCD4	1/4/2013	38	Part Time	Male	Not Hispanic/Latino
6	ABCD5	1/5/2013	30	Part Time	Female	Not Hispanic/Latino
7	ABCD6	1/6/2013	32	Part Time	Male	Not Hispanic/Latino
8	ABCD7	1/7/2013	39	Part Time	Male	Not Hispanic/Latino
9	ABCD8	1/8/2013	42	Part Time	Male	Not Hispanic/Latino
10	ABCD9	1/9/2013	43	Part Time	Male	Not Hispanic/Latino
11	ABCD10	1/10/2013	22	Part Time	Male	Not Hispanic/Latino

The 'Create PivotTable' dialog box is open, showing the following options:

- Choose the data that you want to analyze:
  - Select a table or range
  - Table/Range:
  - Use an external data source
  - Choose Connection...
  - Connection name:
- Choose where you want the PivotTable report to be placed:
  - New Worksheet
  - Existing Worksheet
  - Location:
- Choose whether you want to analyze multiple tables:
  - Add this data to the Data Model

Buttons: OK, Cancel

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#### TO CREATE A FREQUENCY TABLE:

6. Open the pivot table worksheet that you just created.
7. From the dialogue box on the right hand side, click and drag the variable you wish to summarize into the box labeled 'Rows'.
8. Click and drag the same variable into the box labeled 'Values'. Do this twice so that two copies of the same variable appear in your table. (see circle in the diagram below).

The screenshot shows an Excel PivotTable with the following data:

Row Labels	Count of Employment	Count of Employment2
Full Time	4	4
Part Time	2	2
Unemployed, not seeking work	3	3
Unemployed, seeking work	1	1
<b>Grand Total</b>	<b>10</b>	<b>10</b>

The PivotTable Fields task pane on the right shows the following configuration:

- ROWS:** Employment
- VALUES:** Count of Employment, Count of Employment

A red circle highlights the two instances of 'Count of Employment' in the VALUES area, with a red arrow pointing to them from the text '(2 times)' written in red.

9. Both copies of the variable you dragged into the values box should be labeled 'Count of [Variable Name]'. If it does not, click the drop-down arrow next to each variable in the values box and choose Value Field settings. Select 'Count' from the list and click 'OK'.



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Row Labels	Count of Employment	Count of Employment2
Full Time	4	4
Part Time	2	2
Unemployed, not seeking work	3	3
Unemployed, seeking work	1	1
<b>Grand Total</b>	<b>10</b>	<b>10</b>

  

Value Field Settings

Source Name: Employment

Custom Name: Count of Employment

Summarize Values By:  Summarize Values By  Show Values As

**Summarize value field by**

Choose the type of calculation that you want to use to summarize data from the selected field

- Sum
- Count**
- Average
- Max
- Min
- Product

Number Format      OK      Cancel



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- For the second copy of this variable, again choose Value Field settings from the drop-down menu. Navigate to the tab called 'Show Value As' and choose '% of column total'. Click "OK". Now you should see counts in Column B and percentages in column C of your pivot table.

The screenshot shows an Excel PivotTable with the following data:

Row Labels	Count of Employment	Count of Employment2
Full Time	4	4
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Unemployed, not seeking work	3	3
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<b>Grand Total</b>	<b>10</b>	<b>10</b>

The 'Value Field Settings' dialog box is open, showing the following settings:

- Source Name: Employment
- Custom Name: Count of Employment2
- Summarize Values By: Show Values As
- Show values as: % of Column Total
- Number Format: (empty)

- Now you can format the pivot table itself. You should change the names of each column as needed to clarify the meaning. You may also want to adjust column widths, center the numbers in the table, and change the number format so it does not display decimals.

Employment Status	Number	%
Full Time	4	40%
Part Time	2	20%
Unemployed, not seeking work	3	30%
Unemployed, seeking work	1	10%
<b>Grand Total</b>	<b>10</b>	<b>100%</b>



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12. If you have a numeric variable such as age that you want to categorize, right click on any value listed in column A and choose 'Group'. Specify the groups you want to use. You'll want to create categories that will be easy to understand, so you will likely need to adjust the categories that Excel automatically suggests.

Row Labels	Count of Age	Count of Age2
22	1	10%
25	1	10%
30	1	10%
32	1	10%
37	1	10%
38	1	10%
39	1	10%
42	2	20%
43	1	10%
<b>Grand Total</b>	<b>10</b>	<b>100%</b>

The 'Grouping' dialog box shows the following settings:

- Auto:  Starting at: 20
- Auto:  Ending at: 50
- By: 10

13. Your pivot table will now display data according to the ranges that you specified.

Age Group	Number	%
20-29	2	20%
30-39	5	50%
40-50	3	30%
<b>Grand Total</b>	<b>10</b>	<b>100%</b>

14. That's it! Pivot tables can be updated as you add additional records to your data. Simply right click on the pivot table and choose 'refresh'.

15. Additional information may be of interest for numeric variables such as age. Means, medians, minimum, and maximum can also be calculated in any of the cells near your pivot table. Use the following formulas, and don't forget to include labels near each calculation:

For mean, type `"=AVERAGE(cell range)"`

For median, type `"=MEDIAN(cell range)"`

For minimum, type `"=MIN(cell range)"`

For maximum, type `"=MAX(cell range)"`

To enter the cell range, click on the raw data sheet and highlight the range of cells that you want to summarize. Then hit the 'enter' key.



### TO CREATE A CROSS-TAB TABLE:

16. Follow the steps on page 1 to create a new pivot table in a new worksheet.
17. From the dialogue box on the right hand side, click and drag the predictor variable into the box labeled 'Rows' (e.g. if your question is, 'does ART adherence predict suppressed viral load?', you would drag the variable called 'retained' into this box)
18. Click and drag the outcome variable (e.g. suppressed viral load) into the box labeled 'Columns'. Click and drag this same variable into the box labeled 'Values'. The table will appear but will not be easy to understand until you do a few more steps.

Count of VL_Suppressed	Column Labels		
Row Labels	no	Yes	Grand Total
no	5	1	6
Yes		4	4
<b>Grand Total</b>	<b>5</b>	<b>5</b>	<b>10</b>

19. If any of the numbers in the grand total column are smaller than 25, we recommend skipping the next step, as the percentages calculated will be unreliable.
20. In the values box, click the drop-down arrow choose Value Field settings. Select 'Count' from the list if not already selected. Before you close this dialogue box, navigate to the tab called Show Value As and where it says 'no calculation', use the drop-down arrow to choose '% of row total'.
21. Under the Design menu, choose Report Layout and select 'Show in tabular form'.

Count of VL_Suppressed	VL_Suppressed		Grand Total
ART	No	Yes	Grand Total
No	83%	17%	100%
Yes	0%	100%	100%
<b>Grand Total</b>	<b>50%</b>	<b>50%</b>	<b>100%</b>



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22. To make your table easier to understand, replace the text in the upper left-most cell that reads “count of [variable name]” with the word “CROSSTAB”. You may also want to adjust column widths, clarify variable labels, center the numbers in the table, and change the number format so it does not display decimals.

<b>CROSSTAB</b>	<b>Suppressed Viral Load</b>		<b>Grand Total</b>
<b>Client on ART</b>	<b>No</b>	<b>Yes</b>	
No	83%	17%	100%
Yes	0%	100%	100%
<b>Grand Total</b>	<b>50%</b>	<b>50%</b>	<b>100%</b>

23. Your pivot tables can be updated as you add additional records to your raw data. Simply right click on the pivot table and choose ‘refresh’.