

Pivot table example

Pivot tables are a useful tool for organizing data in excel. To make a pivot table:

1. Select your data (for this demo, use the data in the "face detection task data" worksheet). Make sure you include the titles in the top row!
2. Choose Pivot Table from the Data menu (Excel 2003) or the Insert tab (Excel 2007).
3. Click Next, OK, or Finish on every screen of the Pivot Table Wizard to use all of the default settings and make a new worksheet which contains your pivot table.

4. In Excel 2003, you can just click and drag your data onto the pivot table. In this example, we want to see the average RT for each subject for each condition and target type:

Drag "Subject" to the "Row Fields" section on the left side of the pivot table. This will organize the table so that every row is a subject.

Drag "Condition" and "Target" to the "Column Fields" section on top of the pivot table. Note that you can drag these right and left so that either Condition or Target is first.

Drag "RT" to the "Data Items" section in the middle of the table.

Notice that in the upper corner it says "Sum of RT". That's not really what you want to see. Right-click this, choose "Field Settings" and change it to average of RT.

5. You're done! If you want to change something in the pivot table, just click anywhere on the table to see the drag-and-drop interface again.

WARNING: If you edit the original data, Excel does not automatically update your pivot table. You have to do this manually by right-clicking on the table and choosing Refresh Data.

The pivot table for the face detection task data is shown below:

Average of	Condition		Target		easy Total	hard			hard Total	Grand Total
	easy					angryFace	happyFace	neutralFace		
Subject	angryFace	happyFace	neutralFace			angryFace	happyFace	neutralFace		
1						557.3	650.7	743.3	650.4333333	650.4333333
2						569.4	646.7	765.9	660.6666667	660.6666667
3						560.5	642.9	748.2	650.5333333	650.5333333
4	562.9	655.4	756.2	658.1666667						658.1666667
5	563.8	650.7	741.4	651.9666667						651.9666667
6	546.5	650.4	752.8	649.9						649.9
Grand Tot	557.7333333	652.1666667	750.1333333	653.3444444		562.4	646.7666667	752.4666667	653.8777778	653.6111111

In this (made-up) experiment, each subject was trying to detect a face that differed from a crowd of distractor faces in its emotion (it was the only happy face, only angry face, or only neutral face in the crowd). In addition, subjects were sorted into one of two conditions (easy search or hard search). Because "Condition" is a between-subjects variable, the pivot table has some blank spaces.

More tutorials:

<http://www.ozgrid.com/Excel/PivotTables/ExCreatePiv1.htm>

<http://chandoo.org/wp/2009/08/19/excel-pivot-tables-tutorial/> (for Excel 2007)

Subject	Trial	Condition	Target	RT
1	1	hard	neutralFace	714
1	2	hard	neutralFace	772
1	3	hard	happyFace	623
1	4	hard	angryFace	518
1	5	hard	neutralFace	795
1	6	hard	angryFace	508
1	7	hard	neutralFace	740
1	8	hard	angryFace	568
1	9	hard	neutralFace	724
1	10	hard	happyFace	695
1	11	hard	angryFace	597
1	12	hard	happyFace	668
1	13	hard	angryFace	534
1	14	hard	happyFace	647
1	15	hard	neutralFace	713
1	16	hard	neutralFace	721
1	17	hard	angryFace	585
1	18	hard	angryFace	582
1	19	hard	angryFace	552
1	20	hard	neutralFace	761
1	21	hard	happyFace	609
1	22	hard	neutralFace	787
1	23	hard	angryFace	578
1	24	hard	happyFace	631
1	25	hard	angryFace	551
1	26	hard	happyFace	696
1	27	hard	happyFace	670
1	28	hard	neutralFace	706
1	29	hard	happyFace	655
1	30	hard	happyFace	613
2	1	hard	angryFace	560
2	2	hard	happyFace	646
2	3	hard	angryFace	597

2	4	hard	angryFace	514
2	5	hard	happyFace	669
2	6	hard	happyFace	652
2	7	hard	happyFace	619
2	8	hard	angryFace	561
2	9	hard	happyFace	614
2	10	hard	angryFace	585
2	11	hard	angryFace	559
2	12	hard	neutralFace	747
2	13	hard	neutralFace	777
2	14	hard	neutralFace	786
2	15	hard	neutralFace	743
2	16	hard	neutralFace	759
2	17	hard	neutralFace	740
2	18	hard	angryFace	592
2	19	hard	neutralFace	766
2	20	hard	happyFace	653
2	21	hard	happyFace	696
2	22	hard	neutralFace	796
2	23	hard	angryFace	590
2	24	hard	happyFace	633
2	25	hard	angryFace	578
2	26	hard	neutralFace	776
2	27	hard	happyFace	612
2	28	hard	neutralFace	769
2	29	hard	happyFace	673
2	30	hard	angryFace	558
3	1	hard	neutralFace	792
3	2	hard	angryFace	580
3	3	hard	happyFace	607
3	4	hard	happyFace	652
3	5	hard	neutralFace	768
3	6	hard	happyFace	618
3	7	hard	neutralFace	762

3	8 hard	angryFace	562
3	9 hard	neutralFace	722
3	10 hard	neutralFace	783
3	11 hard	angryFace	551
3	12 hard	happyFace	681
3	13 hard	neutralFace	707
3	14 hard	happyFace	603
3	15 hard	angryFace	516
3	16 hard	angryFace	591
3	17 hard	happyFace	652
3	18 hard	happyFace	693
3	19 hard	happyFace	682
3	20 hard	happyFace	609
3	21 hard	neutralFace	707
3	22 hard	angryFace	595
3	23 hard	neutralFace	712
3	24 hard	angryFace	515
3	25 hard	neutralFace	765
3	26 hard	angryFace	547
3	27 hard	angryFace	557
3	28 hard	neutralFace	764
3	29 hard	happyFace	632
3	30 hard	angryFace	591
4	1 easy	happyFace	653
4	2 easy	angryFace	590
4	3 easy	neutralFace	737
4	4 easy	neutralFace	720
4	5 easy	neutralFace	781
4	6 easy	happyFace	664
4	7 easy	angryFace	541
4	8 easy	angryFace	566
4	9 easy	happyFace	627
4	10 easy	angryFace	550
4	11 easy	neutralFace	732

4	12 easy	happyFace	674
4	13 easy	angryFace	534
4	14 easy	neutralFace	796
4	15 easy	happyFace	611
4	16 easy	angryFace	558
4	17 easy	neutralFace	782
4	18 easy	angryFace	571
4	19 easy	neutralFace	748
4	20 easy	angryFace	525
4	21 easy	neutralFace	761
4	22 easy	happyFace	695
4	23 easy	angryFace	597
4	24 easy	happyFace	665
4	25 easy	angryFace	597
4	26 easy	happyFace	664
4	27 easy	neutralFace	764
4	28 easy	neutralFace	741
4	29 easy	happyFace	624
4	30 easy	happyFace	677
5	1 easy	happyFace	668
5	2 easy	happyFace	663
5	3 easy	angryFace	537
5	4 easy	angryFace	537
5	5 easy	angryFace	557
5	6 easy	neutralFace	793
5	7 easy	neutralFace	734
5	8 easy	angryFace	568
5	9 easy	happyFace	626
5	10 easy	angryFace	597
5	11 easy	happyFace	635
5	12 easy	neutralFace	729
5	13 easy	angryFace	589
5	14 easy	neutralFace	702
5	15 easy	happyFace	656

5	16 easy	neutralFace	786
5	17 easy	angryFace	561
5	18 easy	happyFace	627
5	19 easy	happyFace	682
5	20 easy	happyFace	696
5	21 easy	neutralFace	768
5	22 easy	angryFace	521
5	23 easy	happyFace	646
5	24 easy	neutralFace	749
5	25 easy	happyFace	608
5	26 easy	neutralFace	706
5	27 easy	angryFace	574
5	28 easy	neutralFace	728
5	29 easy	angryFace	597
5	30 easy	neutralFace	719
6	1 easy	neutralFace	748
6	2 easy	neutralFace	754
6	3 easy	neutralFace	777
6	4 easy	neutralFace	730
6	5 easy	happyFace	611
6	6 easy	angryFace	546
6	7 easy	angryFace	521
6	8 easy	happyFace	602
6	9 easy	neutralFace	719
6	10 easy	neutralFace	789
6	11 easy	angryFace	555
6	12 easy	angryFace	507
6	13 easy	happyFace	669
6	14 easy	neutralFace	734
6	15 easy	happyFace	686
6	16 easy	happyFace	690
6	17 easy	angryFace	590
6	18 easy	happyFace	613
6	19 easy	happyFace	692

6	20 easy	angryFace	591
6	21 easy	angryFace	554
6	22 easy	happyFace	641
6	23 easy	happyFace	676
6	24 easy	angryFace	544
6	25 easy	neutralFace	736
6	26 easy	neutralFace	799
6	27 easy	happyFace	624
6	28 easy	angryFace	527
6	29 easy	angryFace	530
6	30 easy	neutralFace	742

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