LAB ASSIGNMENT – SPOTFIRE

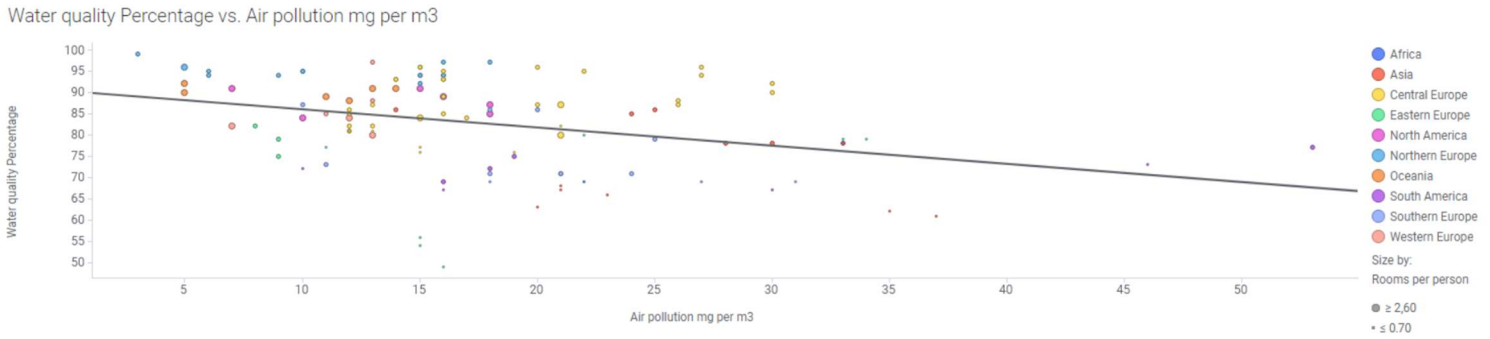
Master of Data Science (University of Skövde)

Kim Wurster
a24kimwu

Contents

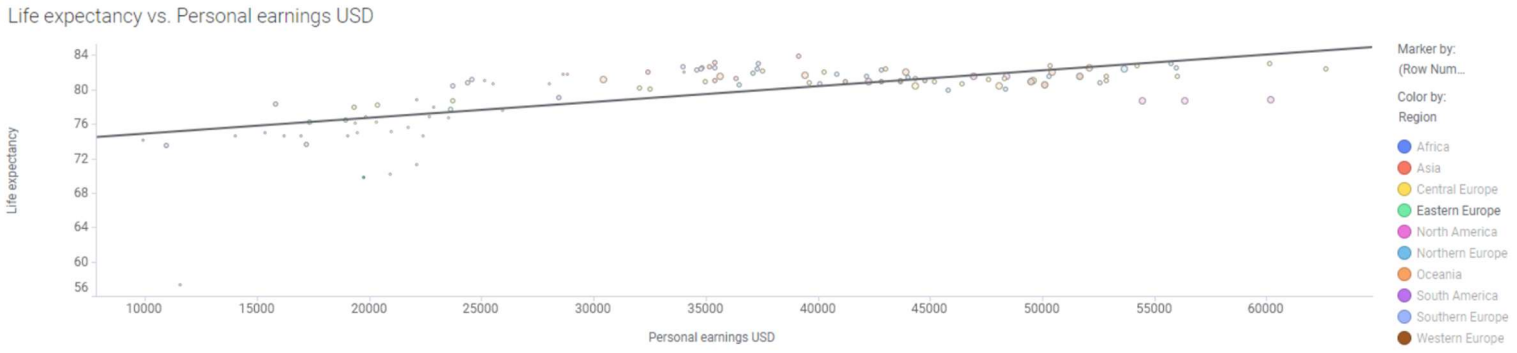
1. Visualization and Visual Analytics 2
   1.1 Brush linking 2
   1.2 Using custom expressions to enrich your analysis 3
   1.3 Master-detail visualization (Drill down) 4
   1.4 Filter 5
   1.5 Histogram 5
   1.6 Trellis 6
   1.7 Advanced Analytics-Data relationships 6
2. GeoAnalytics using the Map chart 7
3. Dashboarding 8
   3.1 Limit by expression 8
   3.2 Text area 8
4. Data Canvas 10
   4.1 Add columns 10
   4.2 Transforming data 11
   4.3 Enhancing data 12

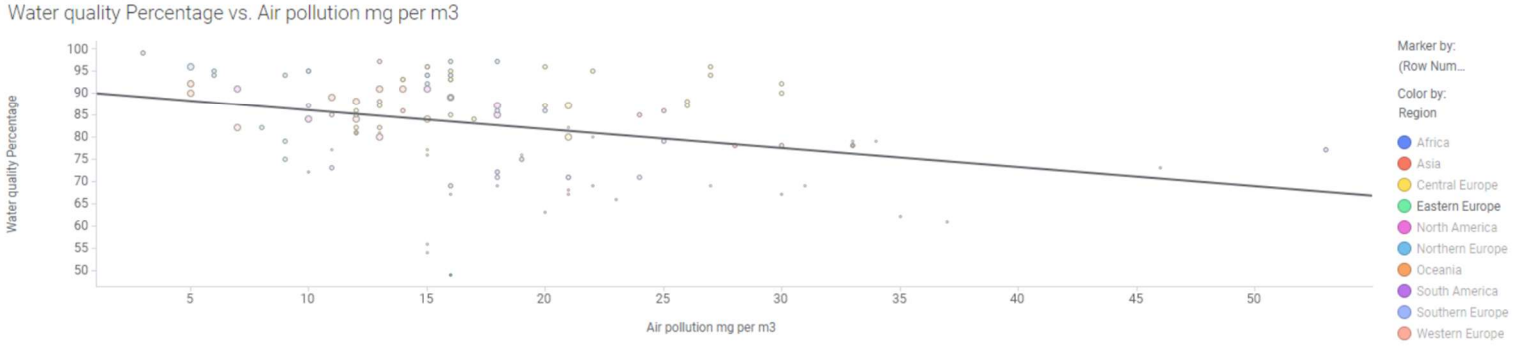
1. Visualization and Visual Analytics



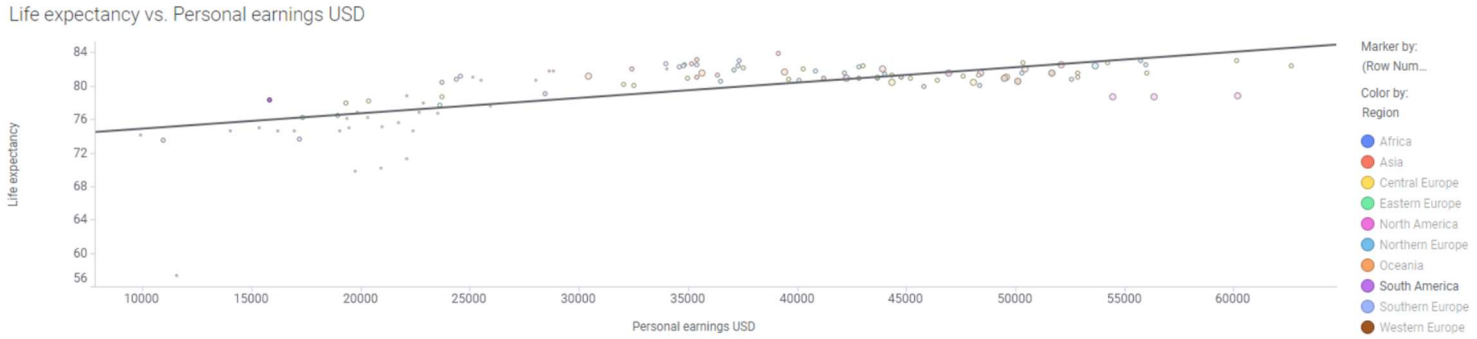
1.1 Brush linking

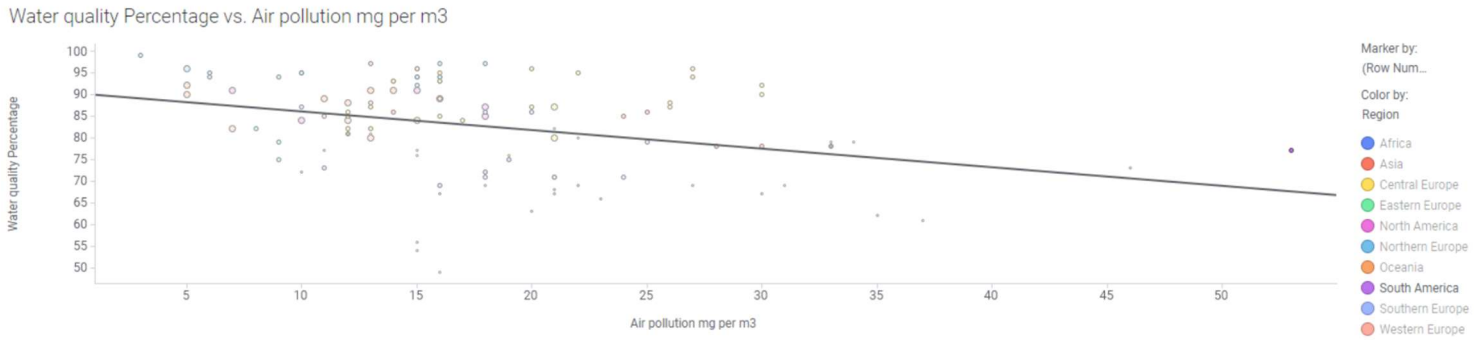
Mark countries with poor water quality



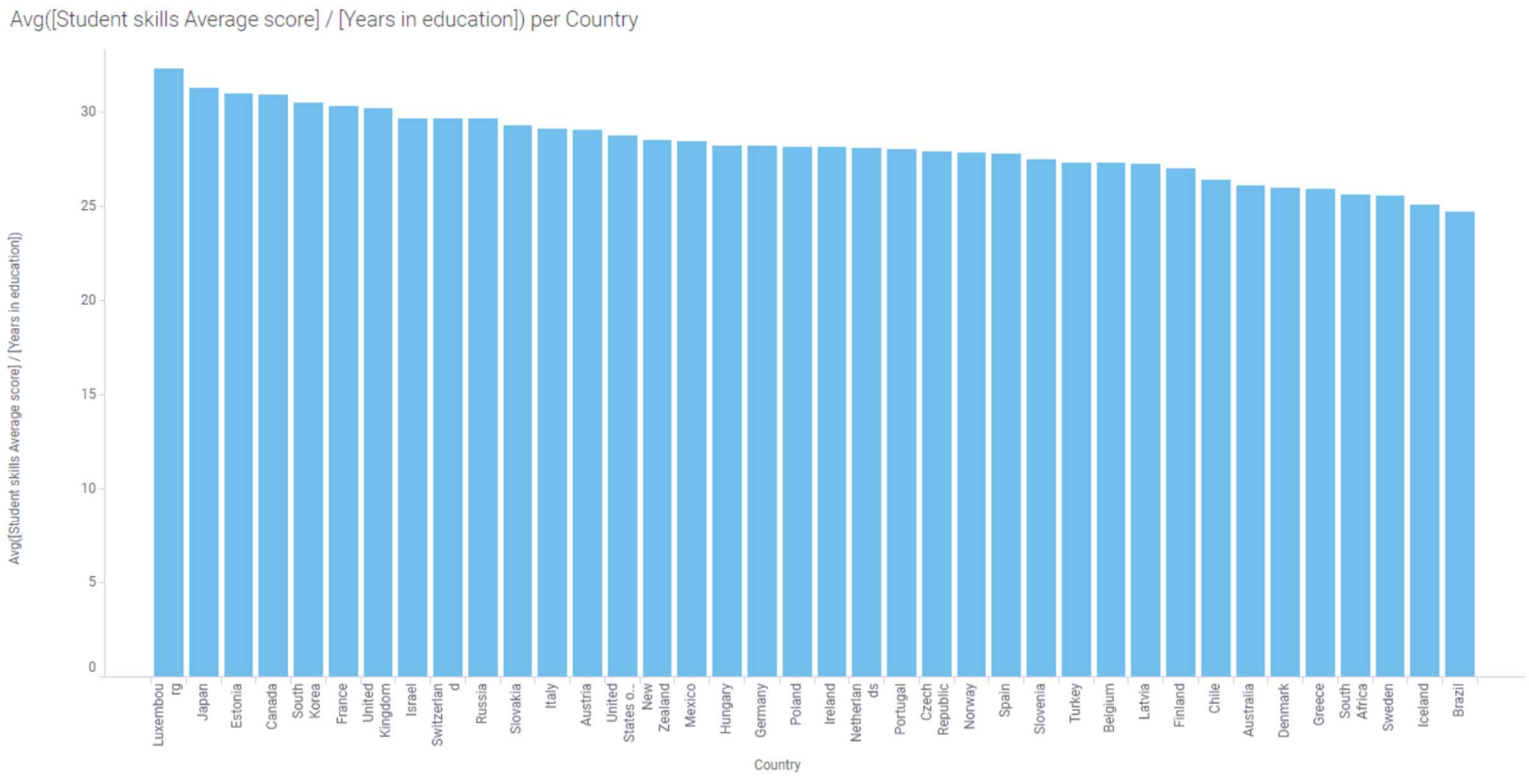


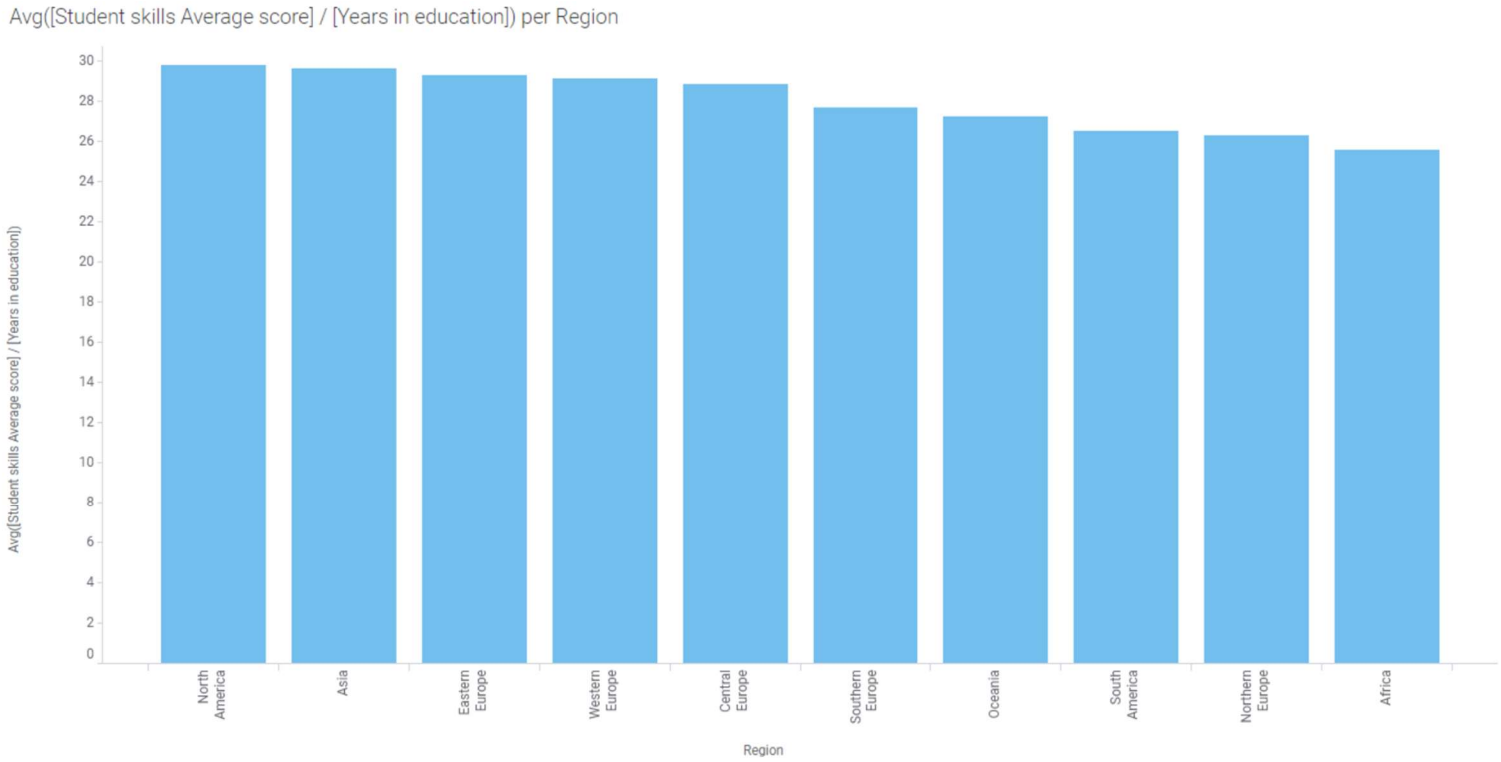
Mark countries with high air pollution



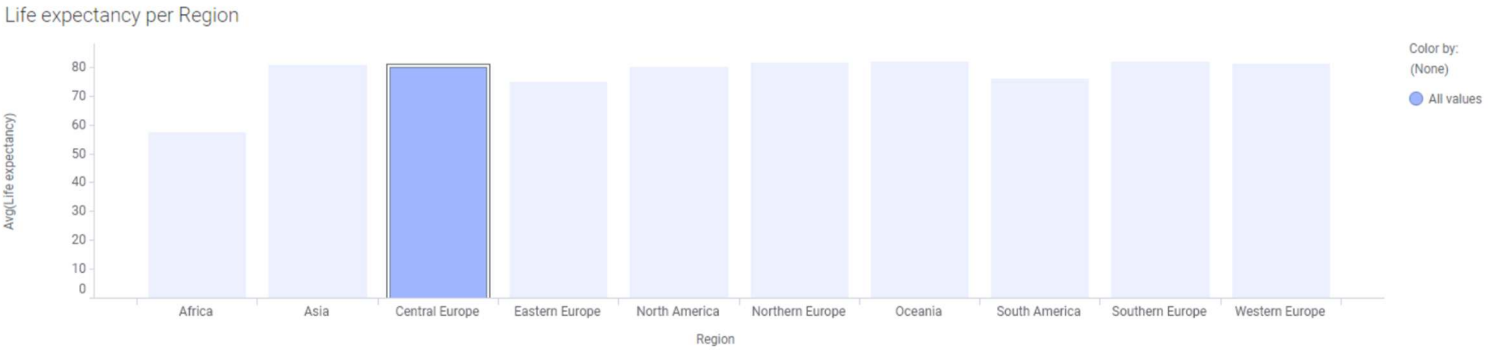


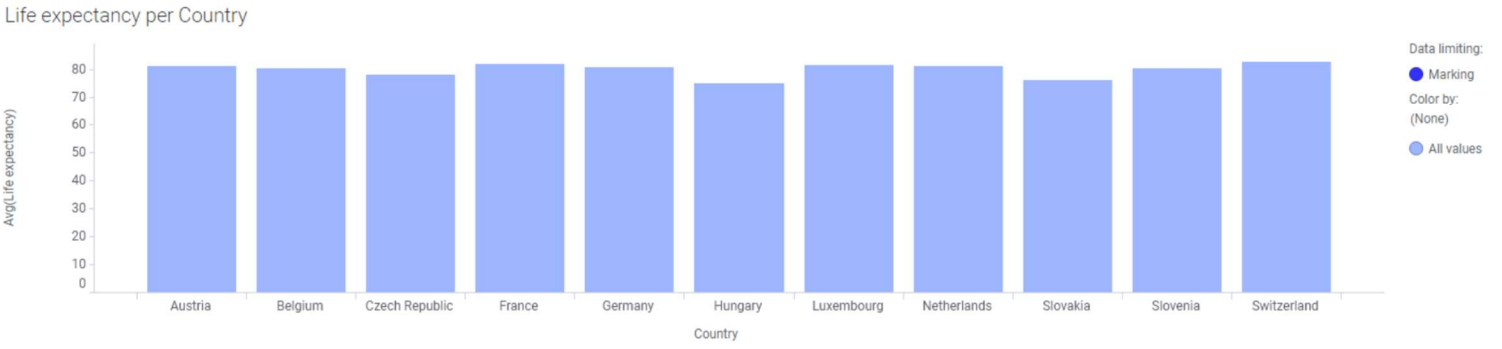
1.2 Using custom expressions to enrich your analysis





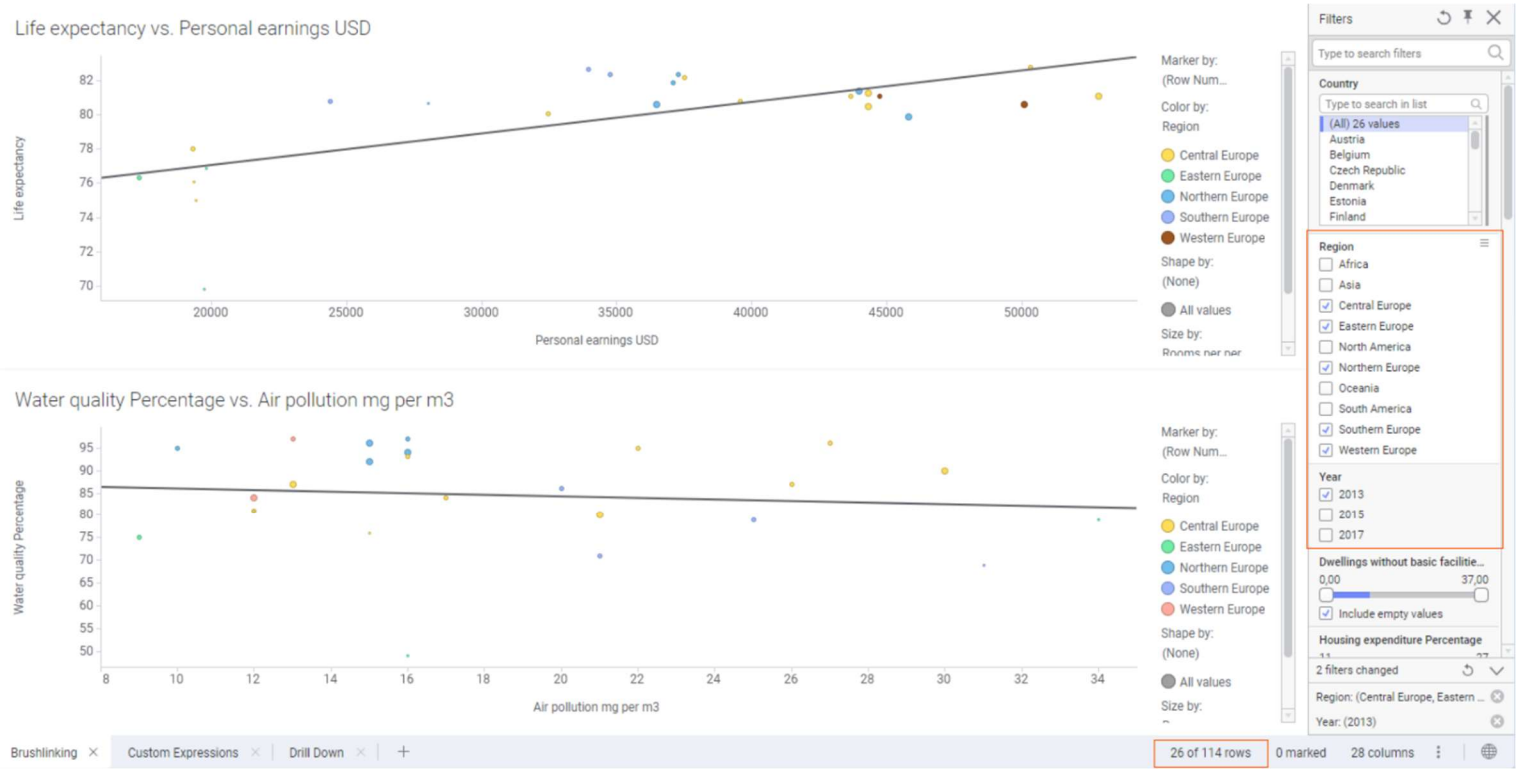
1.3 Master-detail visualization (Drill down)



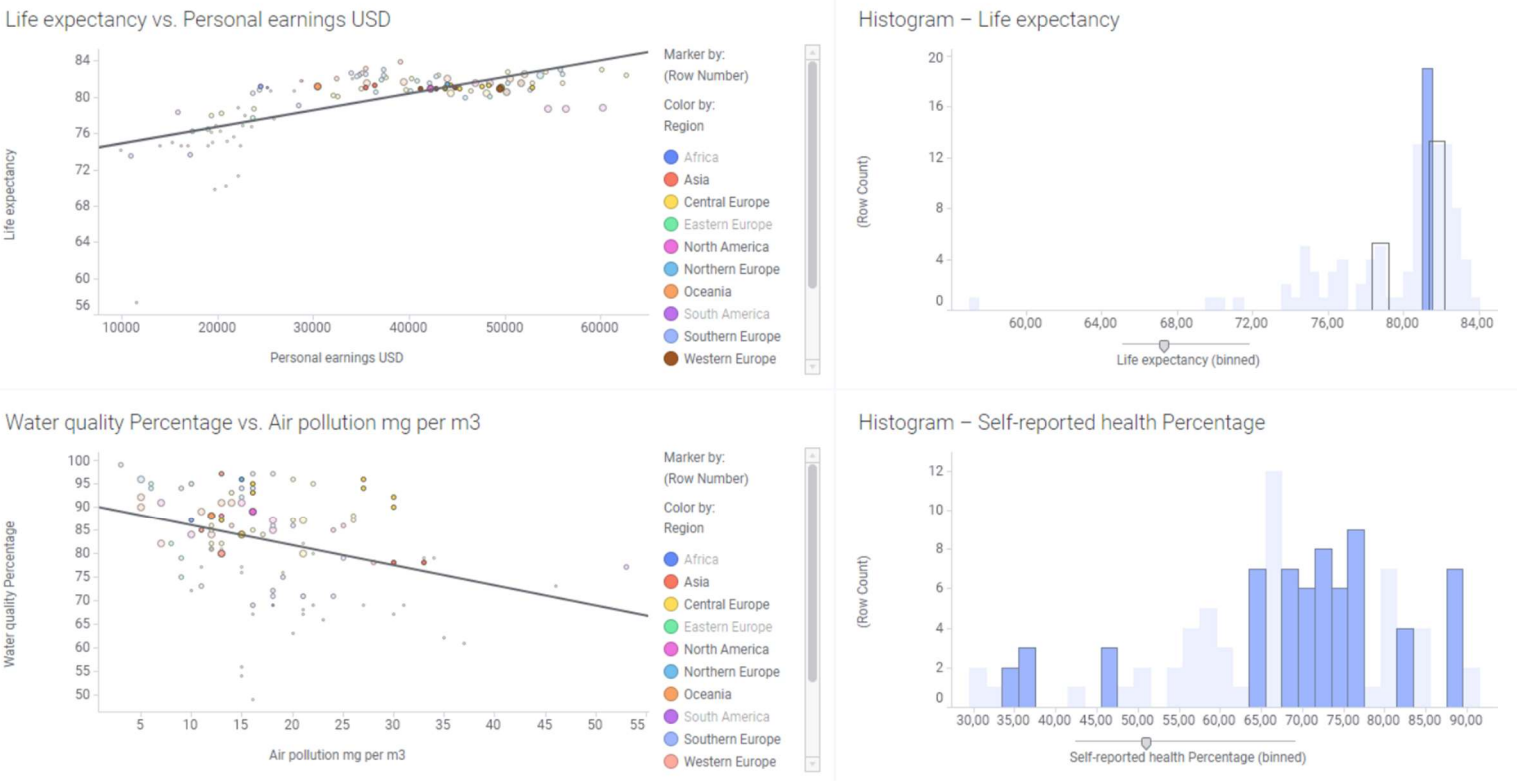


When on Region is clicked the bar chart, sorted by countries shows the value of all the different countries in this region.

1.4 Filter

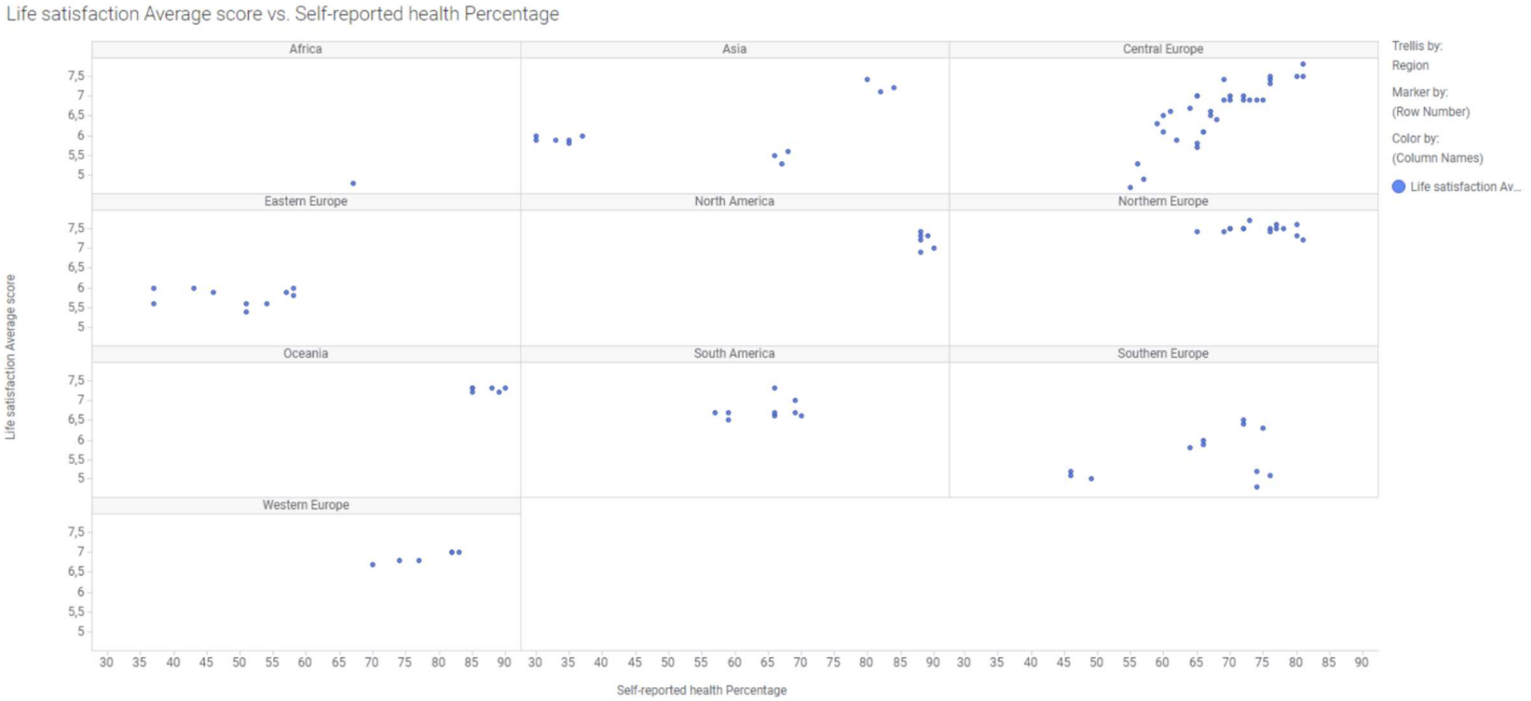


1.5 Histogram



When I click on one specific value in the bar chart all the other charts change accordingly as well.

1.6 Trellis

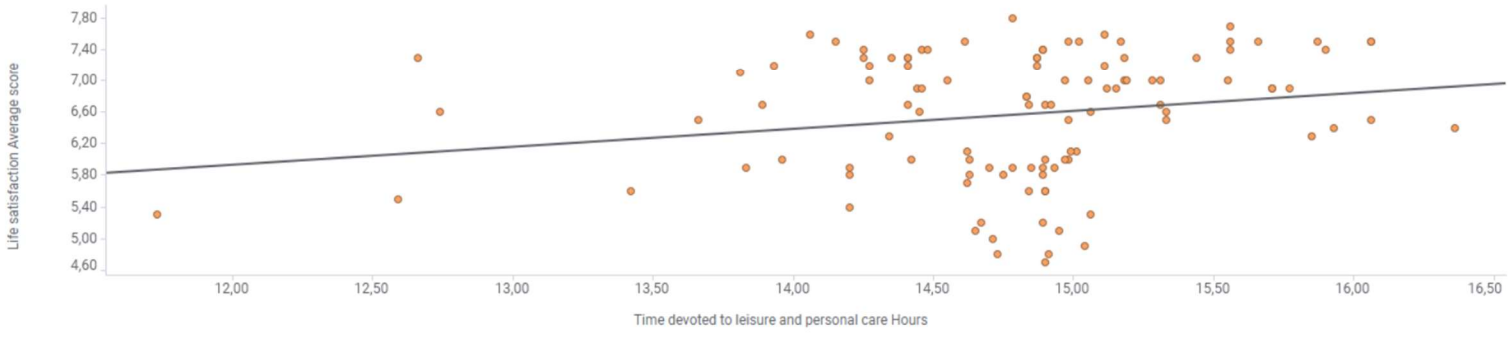


1.7 Advanced Analytics-Data relationships

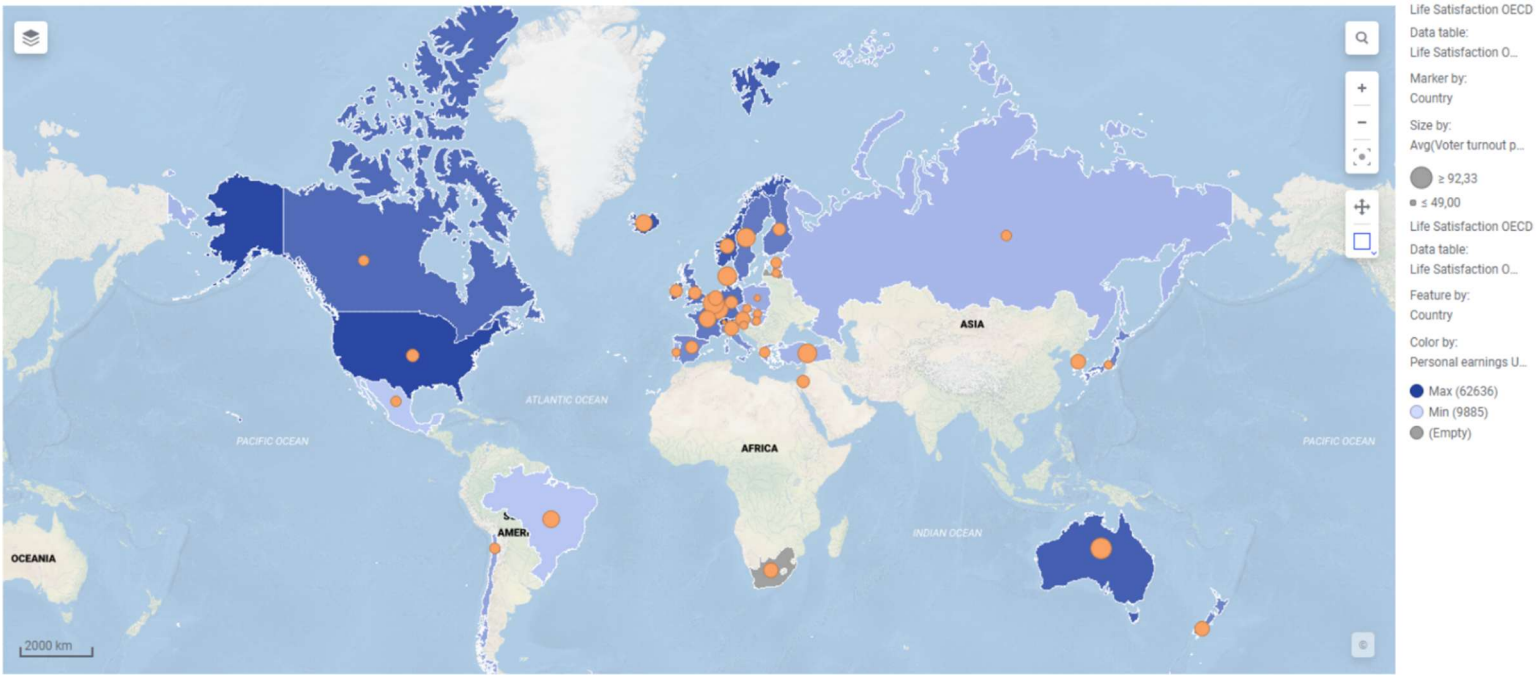
Data Relationships (Linear Regression)

Y (numerical)	X (numerical)	p-value	FStat	RSq	R	Df	n
Life satisfacti...	Quality of sup...	6,82E-010	45,89	0,30	0,55	108	110
Life satisfacti...	Dwellings with...	1,16E-006	26,56	0,20	-0,44	108	110
Life satisfacti...	Life expectancy	1,23E-006	26,42	0,20	0,44	108	110
Life satisfacti...	Household net...	2,01E-006	25,24	0,19	0,44	108	110
Life satisfacti...	Voter turnout ...	7,86E-005	16,86	0,14	0,37	108	110
Life satisfacti...	Feeling safe w...	1,91E-004	17,27	0,32	0,57	36	38
Life satisfacti...	Years in educ...	4,19E-003	8,56	0,07	0,27	108	110
Life satisfacti...	Air pollution m...	5,81E-003	7,92	0,07	-0,26	108	110
Life satisfacti...	Educational at...	1,90E-002	5,67	0,05	0,22	108	110
Life satisfacti...	**Time devoted ...**	**3,22E-002**	**4,71**	**0,04**	**0,20**	**108**	**110**
Life satisfacti...	Student skills ...	4,19E-002	4,24	0,04	0,19	108	110
Life satisfacti...	Employees wo...	7,89E-002	3,15	0,03	-0,17	108	110
Life satisfacti...	Consultation o...	1,56E-001	2,06	0,03	0,17	70	72
Life satisfacti...	Housing expe...	2,30E-001	1,46	0,01	0,12	108	110

Data Relationships (Details)

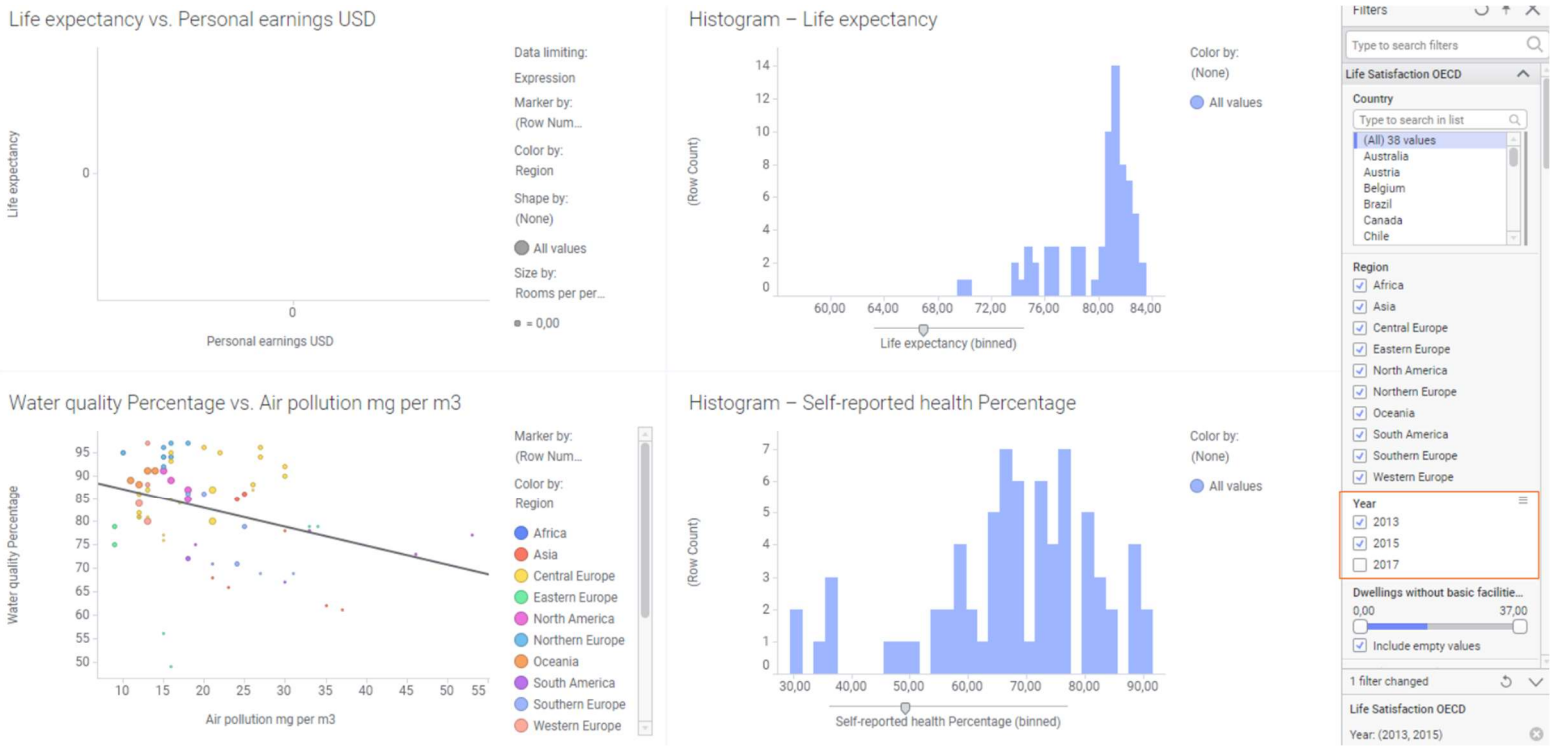


2. GeoAnalytics using the Map chart



3. Dashboarding

3.1 Limit by expression

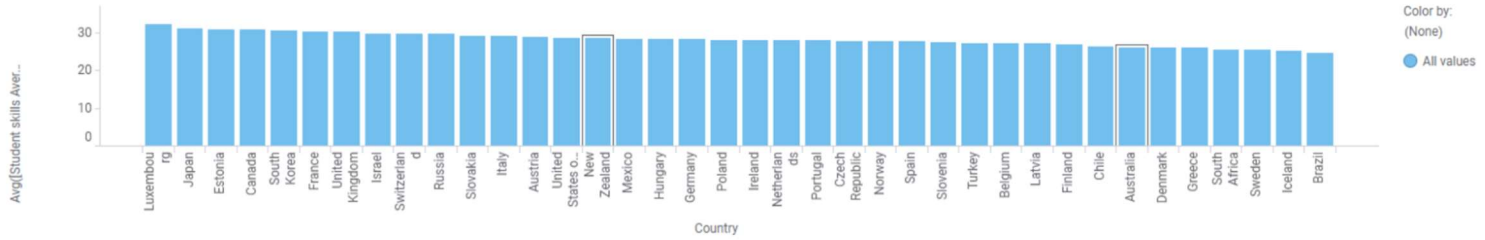


3.2 Text area

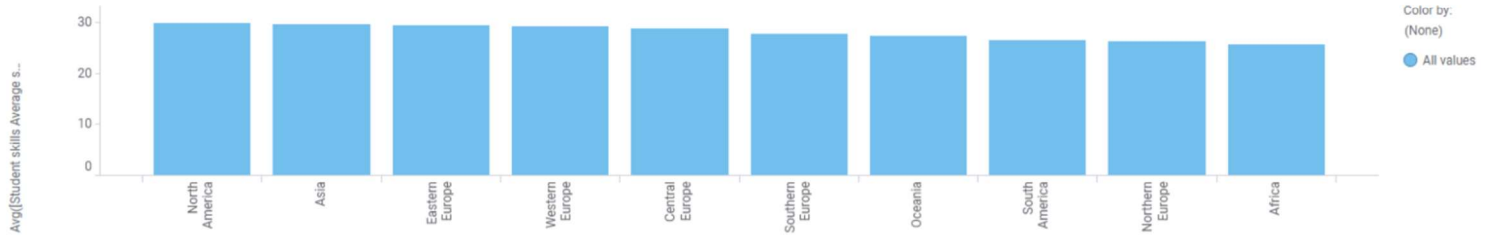
Spotfire - Lab Assignment

Previous Page (Scatter Plots) | Next Page (Drill Down)

Avg([Student skills Average score] / [Years in education]) per Country



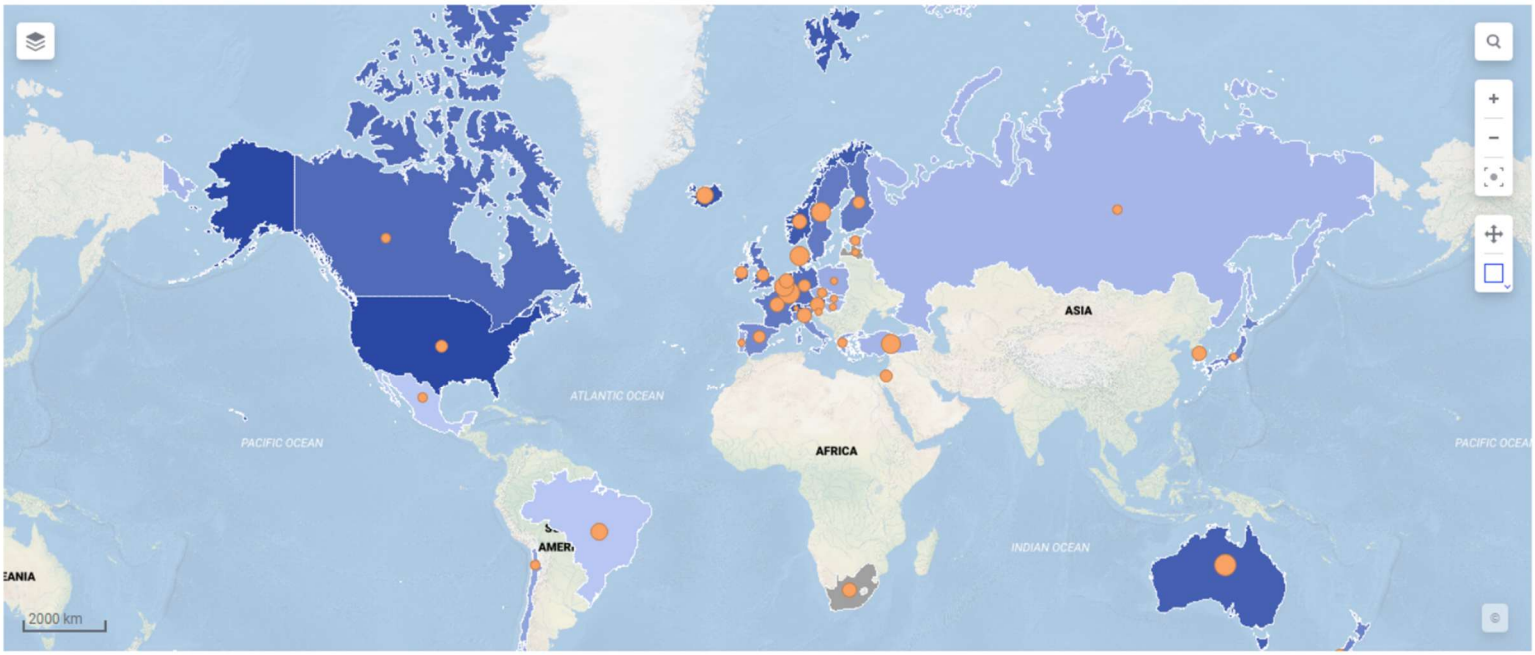
Avg([Student skills Average score] / [Years in education]) per Region



Spotfire - Lab Assignment

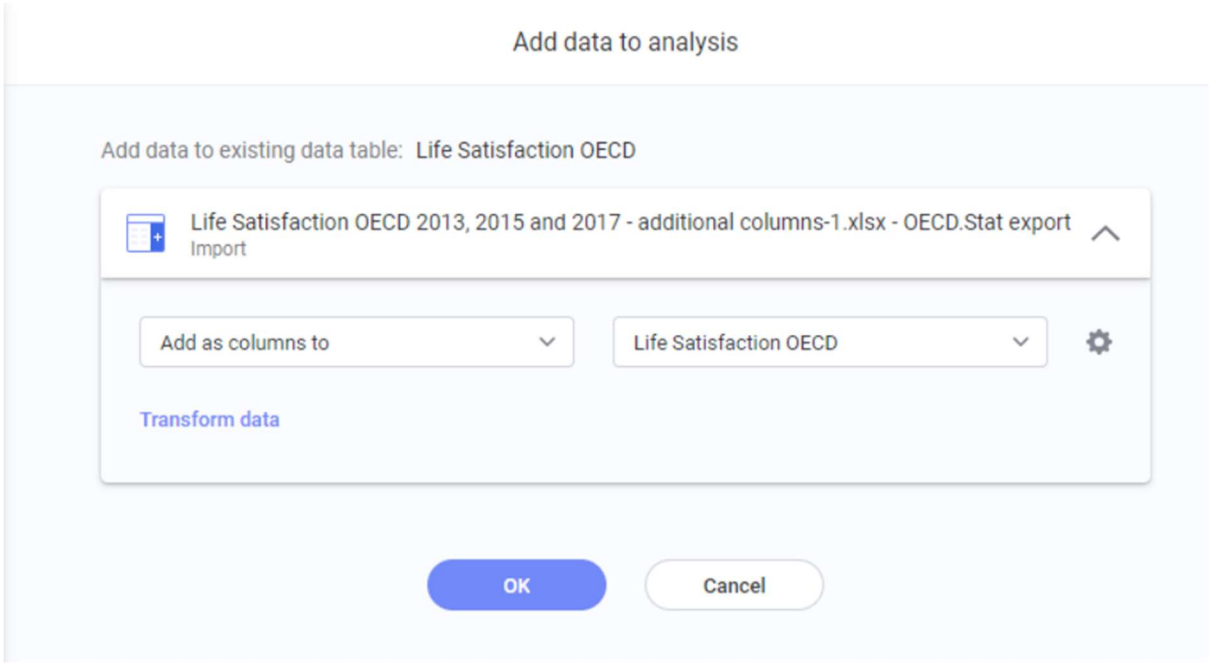
Previous Page (Data Relationships)

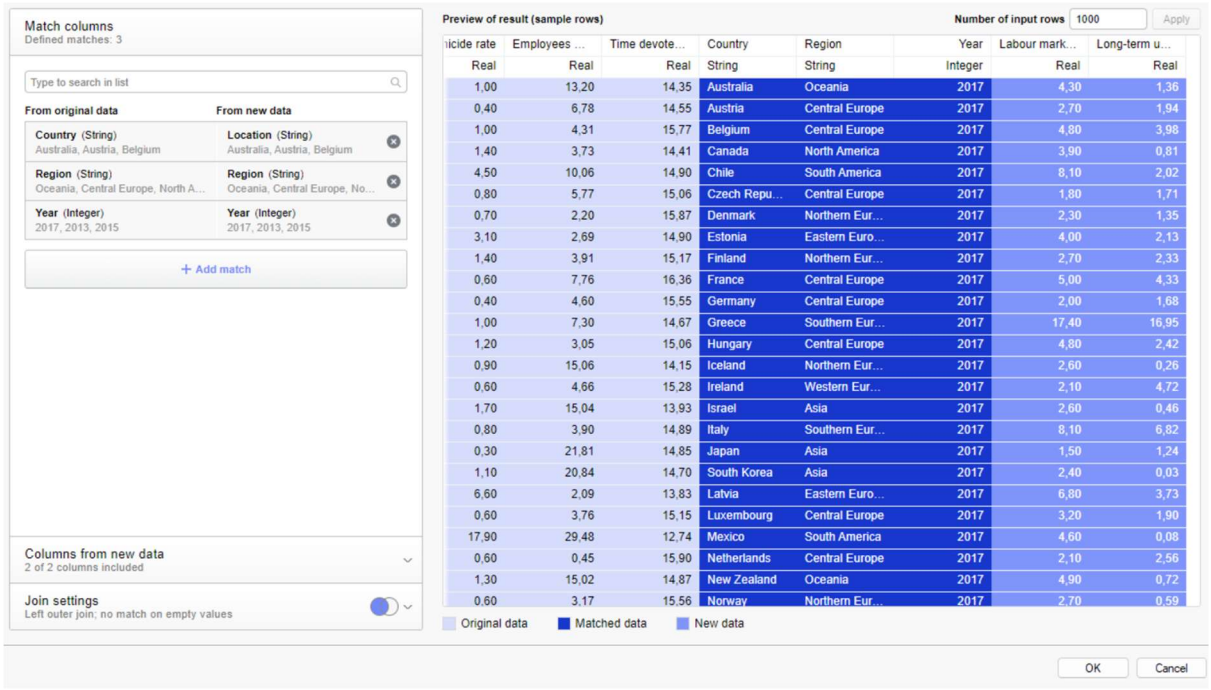
Map chart



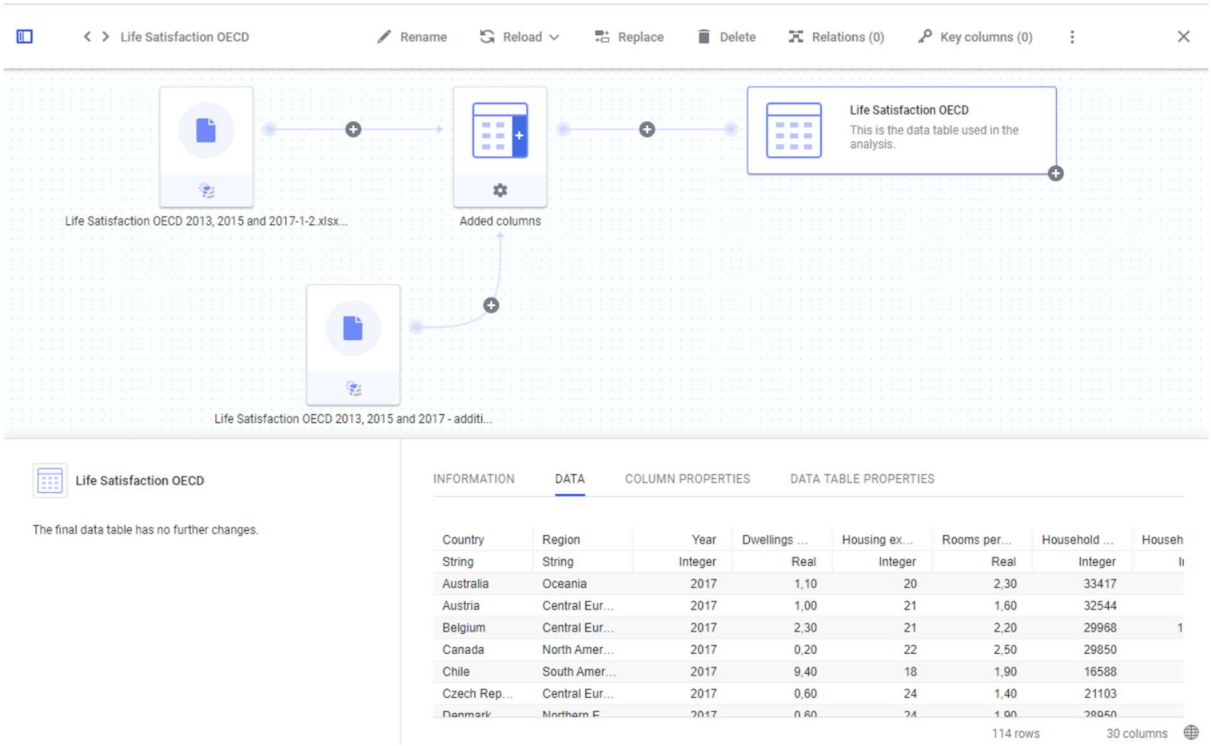
4. Data Canvas

4.1 Add columns

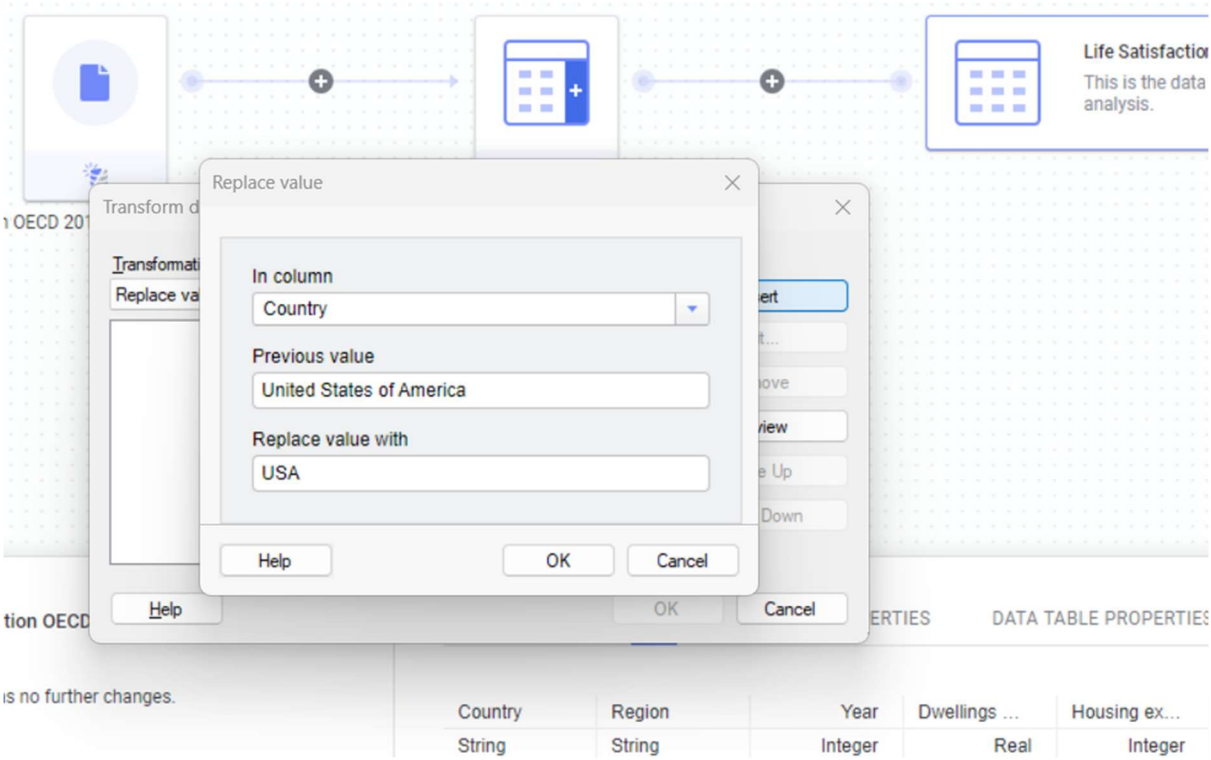




icide rate	Employees ...	Time devote...	Country	Region	Year	Labour mark...	Long-term u...
Real	Real	Real	String	String	Integer	Real	Real
1,00	13,20	14,35	Australia	Oceania	2017	4,30	1,36
0,40	6,78	14,55	Austria	Central Europe	2017	2,70	1,94
1,00	4,31	15,77	Belgium	Central Europe	2017	4,80	3,98
1,40	3,73	14,41	Canada	North America	2017	3,90	0,81
4,50	10,06	14,90	Chile	South America	2017	8,10	2,02
0,80	5,77	15,06	Czech Repu...	Central Europe	2017	1,80	1,71
0,70	2,20	15,87	Denmark	Northern Eur...	2017	2,30	1,35
3,10	2,69	14,90	Estonia	Eastern Euro...	2017	4,00	2,13
1,40	3,91	15,17	Finland	Northern Eur...	2017	2,70	2,33
0,60	7,76	16,36	France	Central Europe	2017	5,00	4,33
0,40	4,60	15,55	Germany	Central Europe	2017	2,00	1,68
1,00	7,30	14,67	Greece	Southern Eur...	2017	17,40	16,95
1,20	3,05	15,06	Hungary	Central Europe	2017	4,80	2,42
0,90	15,06	14,15	Iceland	Northern Eur...	2017	2,60	0,26
0,60	4,66	15,28	Ireland	Western Eur...	2017	2,10	4,72
1,70	15,04	13,93	Israel	Asia	2017	2,60	0,46
0,80	3,90	14,89	Italy	Southern Eur...	2017	8,10	6,82
0,30	21,81	14,85	Japan	Asia	2017	1,50	1,24
1,10	20,84	14,70	South Korea	Asia	2017	2,40	0,03
6,60	2,09	13,83	Latvia	Eastern Euro...	2017	6,80	3,73
0,60	3,76	15,15	Luxembourg	Central Europe	2017	3,20	1,90
17,90	29,48	12,74	Mexico	South America	2017	4,60	0,08
0,60	0,45	15,90	Netherlands	Central Europe	2017	2,10	2,56
1,30	15,02	14,87	New Zealand	Oceania	2017	4,90	0,72
0,60	3,17	15,56	Norway	Northern Eur...	2017	2,70	0,59



4.2 Transforming data



INFORMATION DATA COLUMN PROPERTIES DATA TABLE PROPERTIES

Country	Region	Year	Dwellings ...	Housing ex...	Rooms per...	Household ...
String	String	Integer	Real	Integer	Real	Integer
Sweden	Northern E...	2017	0,00	20	1,80	30553
Switzerland	Central Eur...	2017	0,00	21	1,90	36378
Turkey	Asia	2017	6,50	20	1,00	17067
United King...	Western Eu...	2017	0,40	24	2,00	28408
USA	North Amer...	2017	0,10	18	2,40	44049
Brazil	South Amer...	2017	6,70	20	0,80	12227
Russia	Eastern Eu...	2017	13,80	19	1,00	16657

114 rows 30

4.3 Enhancing data

TA COLUMN PROPERTIES DATA TABLE PROPERTIES

Personal earnings SEK

Homicide r...	Employees...	Time devot...	Labour mar...	Long-term ...	Personal e...
Real	Real	Real	Real	Real	Real
17,90	29,48	12,74	4,60	0,08	151119,57
0,60	0,45	15,90	2,10	2,56	521461,71
1,30	15,02	14,87	4,90	0,72	388848,39
0,60	3,17	15,56	2,70	0,59	529456,41
0,80	6,68	14,42	4,30	2,14	255840,27
1,00	8,20	14,89	6,50	6,14	242101,23