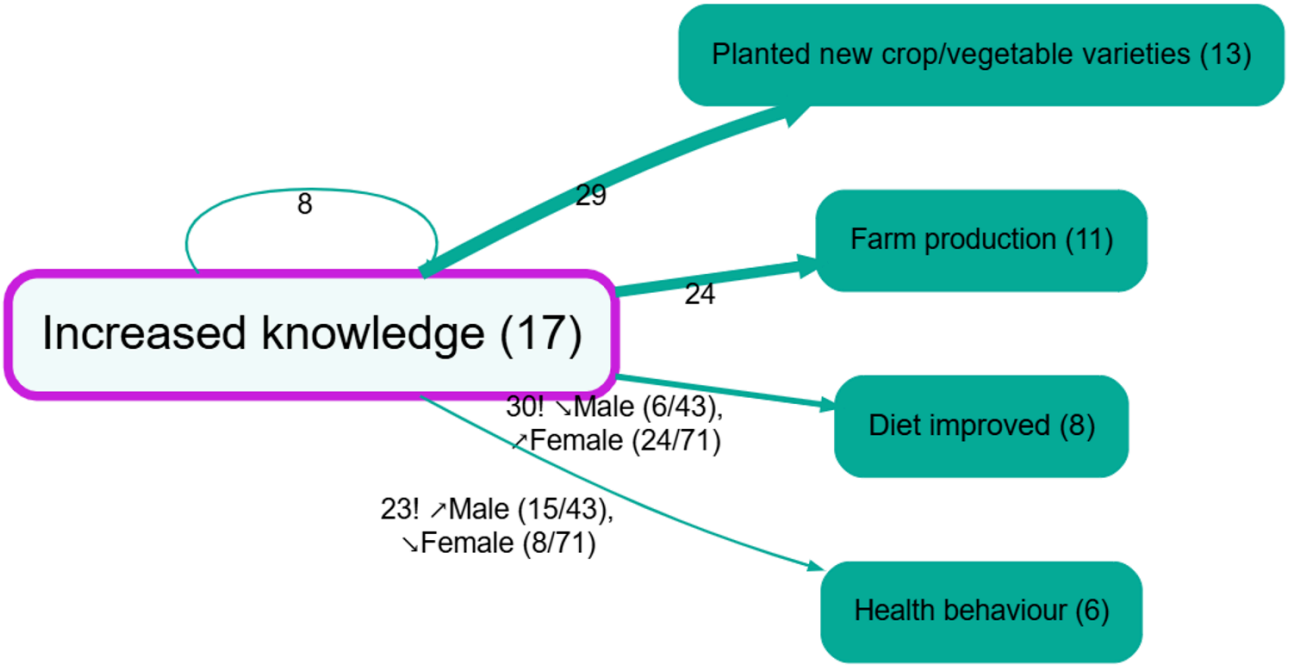
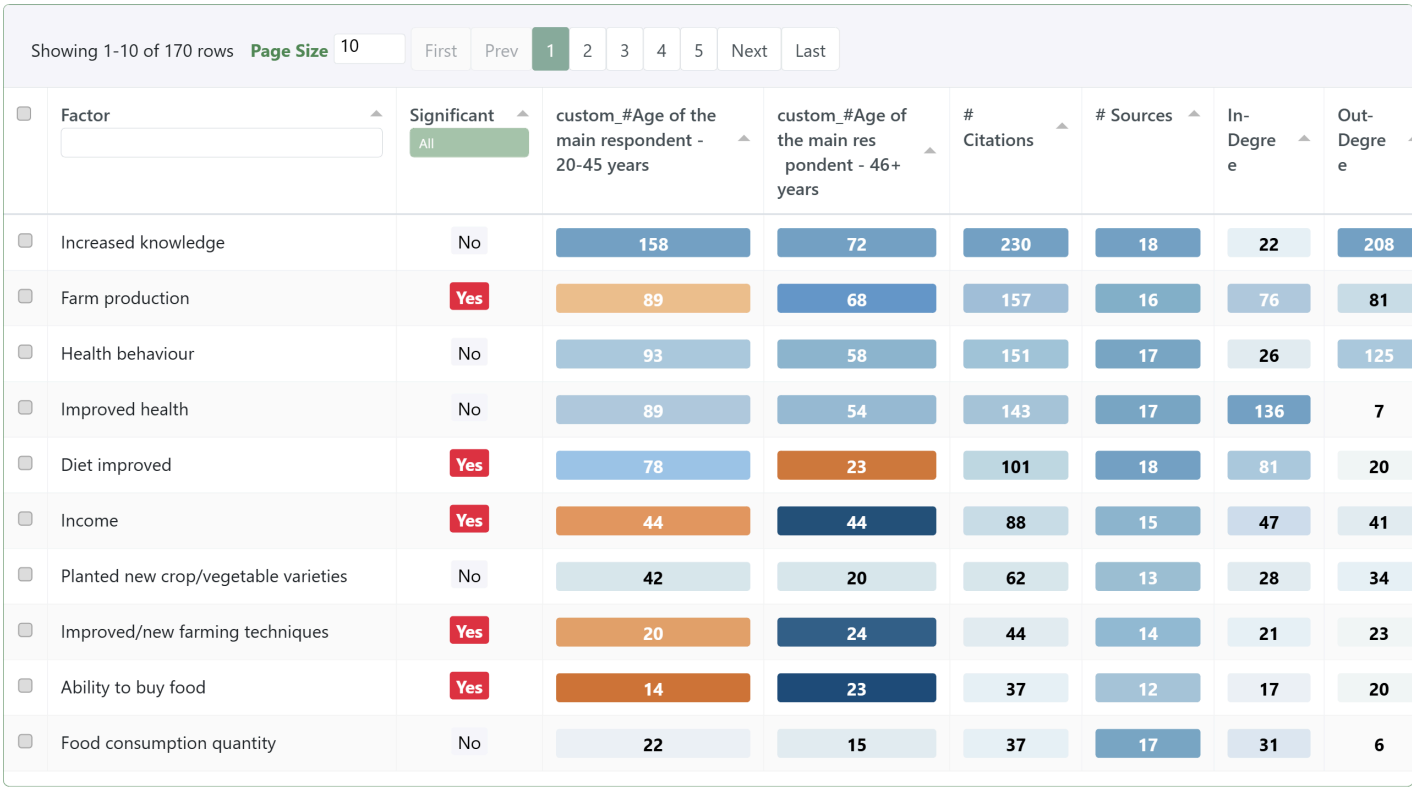
🌻 Comparing groups – What factors or links were mentioned more by some groups than others, in the same map ?



We can directly **compare groups** to find factors or links mentioned more by one group than another using a statistical test to find the most surprising differences between groups, taking into account the underlying frequencies.

Differences - sample



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Factor	Significant	custom_#Age of the main respondent - 20-45 years	custom_#Age of the main respondent - 46+ years	# Citations	# Sources	In-Degree	Out-Degree
Increased knowledge	No	158	72	230	18	22	208
Farm production	Yes	89	68	157	16	76	81
Health behaviour	No	93	58	151	17	26	125
Improved health	No	89	54	143	17	136	7
Diet improved	Yes	78	23	101	18	81	20
Income	Yes	44	44	88	15	47	41
Planted new crop/vegetable varieties	No	42	20	62	13	28	34
Improved/new farming techniques	Yes	20	24	44	14	21	23
Ability to buy food	Yes	14	23	37	12	17	20
Food consumption quantity	No	22	15	37	17	31	6

Shows which links were preferentially mentioned according to different groups e.g. women more than men. We ask:

> does the proportion of women vs men who mention this link differ from what you would expect (given the total number of mentions of links by both women vs men)?

	Women	**Men**
... other links ...		
Number of mentions of the link from X to Y	10	9
... other links ...		
Total number of mentions of any link	**60**	**10**

In this case we can see that although women mentioned the link slightly more often than men, women altogether mentioned links twice as often as men. So we can compare the number of mentions of the link with the number of "non-mentions" of the link. So we can work out this table (not shown).

	Women	Men
Number of mentions of the link from X to Y	10	9
Number of mentions of any *other* link	50	1

We can do a simple chi-squared test on this table to see if the ratio 10:9 is significantly different from 50:1 (which of course it is) — this is the same question as to whether 10:50 is significantly different from 9:1 (which of course it is). If this test is significant, the row "Number of mentions of the link from X to Y" is shown in the table, and the intensity of the colouring of each cell reflects its chi-squared residual, i.e. how different is the number it contains from the number you would expect, given the other numbers?

This comparison is agnostic as to whether there are, say, many men or a few men who talk a lot.

The tests for this are chi-squared tests. If the grouping factor is numerical we add an additional correction for ordinal scale so that the chi-squared test is not weaker than it should be.

The factors table

Related

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- Formatting your map (recipe)