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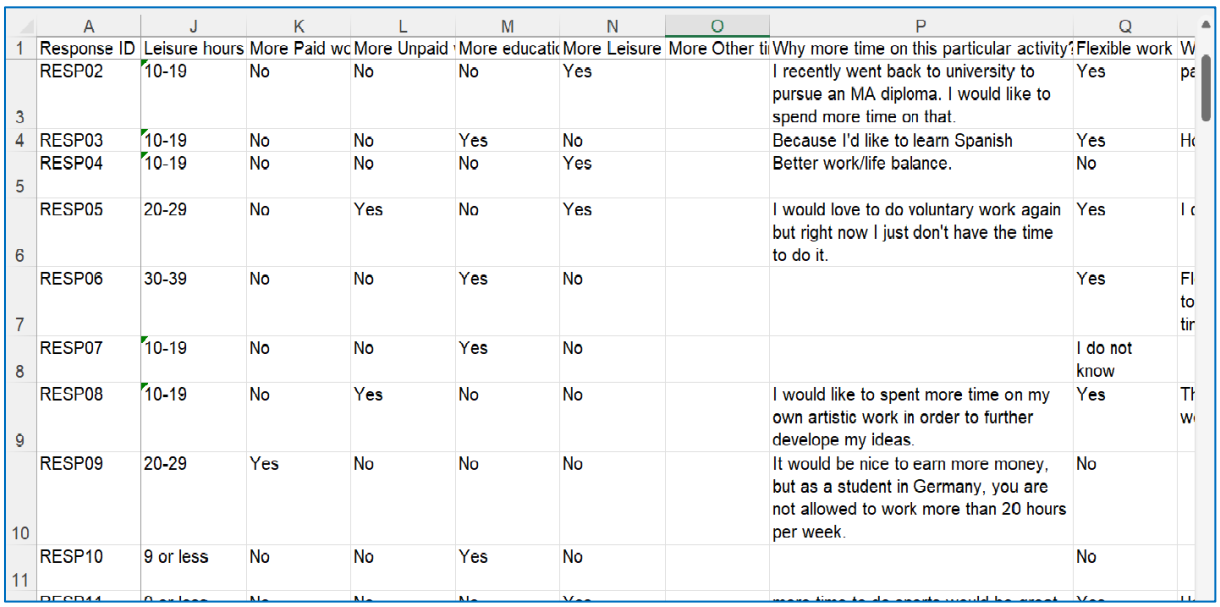
Analyzing responses to open-ended survey questions.

Excel format for data preparation:



	A	J	K	L	M	N	O	P	Q	
1	Response ID	Leisure hours	More Paid wc	More Unpaid	More educatic	More Leisure	More Other ti	Why more time on this particular activity?	Flexible work	W
3	RESP02	10-19	No	No	No	Yes		I recently went back to university to pursue an MA diploma. I would like to spend more time on that.	Yes	pa
4	RESP03	10-19	No	No	Yes	No		Because I'd like to learn Spanish	Yes	H
5	RESP04	10-19	No	No	No	Yes		Better work/life balance.	No	
6	RESP05	20-29	No	Yes	No	Yes		I would love to do voluntary work again but right now I just don't have the time to do it.	Yes	I
7	RESP06	30-39	No	No	Yes	No			Yes	Fl to tir
8	RESP07	10-19	No	No	Yes	No			I do not know	
9	RESP08	10-19	No	Yes	No	No		I would like to spent more time on my own artistic work in order to further develope my ideas.	Yes	Th w
10	RESP09	20-29	Yes	No	No	No		It would be nice to earn more money, but as a student in Germany, you are not allowed to work more than 20 hours per week.	No	
11	RESP10	9 or less	No	No	Yes	No			No	

Notes:

- Column A contains the labels for the Document System in MAXQDA, it should have a unique identifier for each respondent.
- The labels at the top of each column (Row 1) will appear exactly like this in MAXQDA, so edit labels to be meaningful in that different context, and remember that shorter labels are better than long ones.
- If you use Survey Monkey for data collection, there is a special routine in MAXQDA to collect the data from your Survey Monkey account which by-passes this step. Full instructions are available in the MAXQDA Online Manual (click the "(?)" button in the bottom left-hand corner of the MAXQDA interface).
- When your data is ready, close the Excel workbook, open the analysis project in MAXQDA and use the option **Import > Survey Data > Import Data from Excel Spreadsheet**. You will need to navigate to the folder with the Excel workbook and select it there to start the process.

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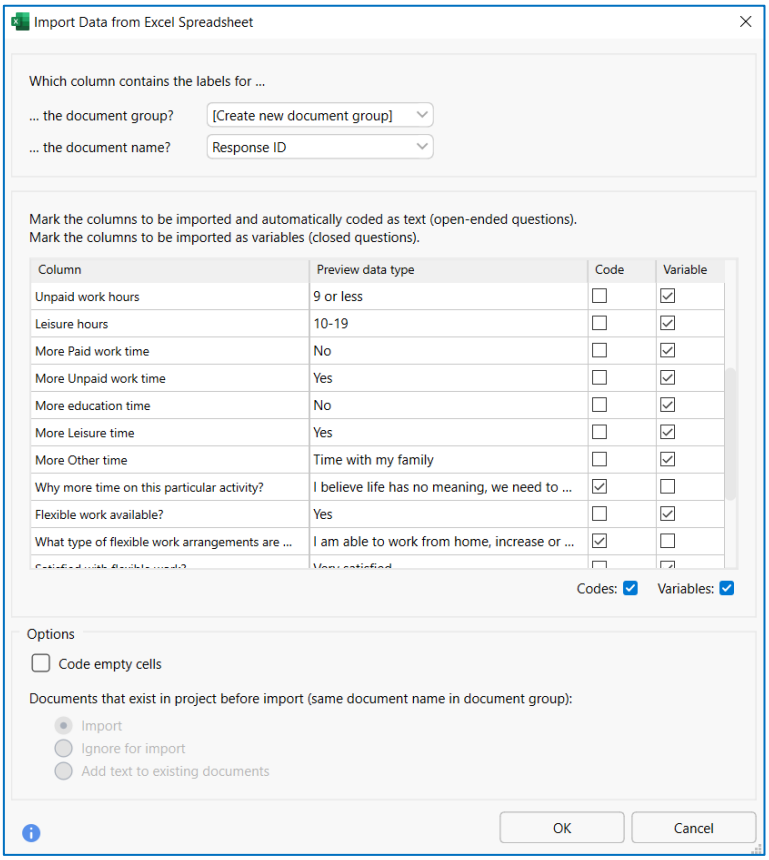
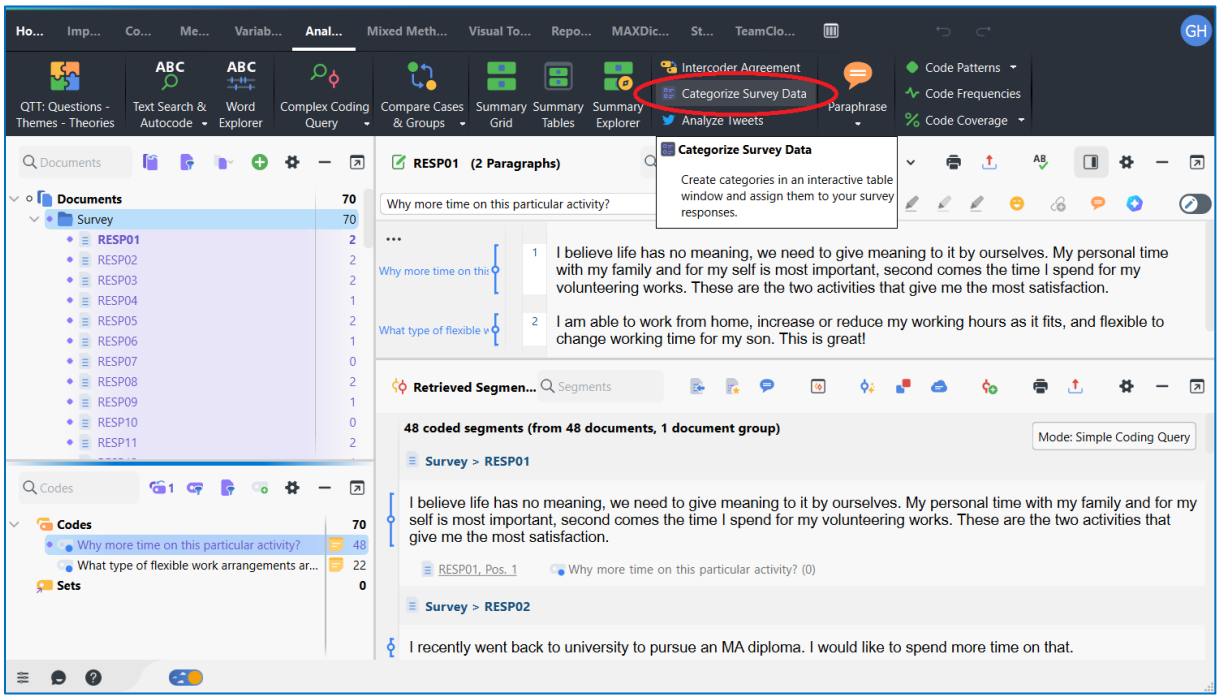
Dialog during import routine in MAXQDA:



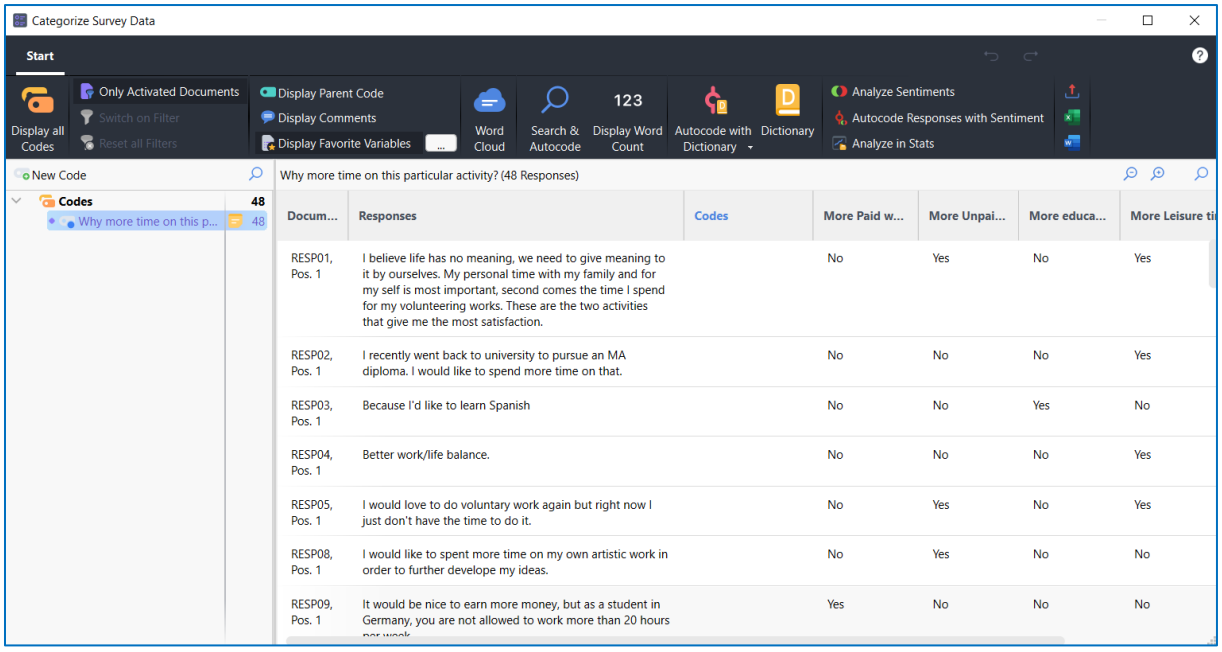
- MAXQDA will create a new group in the Document System, and you can rename it later.
- Responses to closed questions go into the Variables section.
- Responses to open questions are marked as "Code" to be analyzed with codes.
- Leave empty cells un-coded.

- The import routine will suggest the Code/Variable choices for you, but you should check it has got these correct.
- By not ticking the "Code empty cells" box you will only get data fields showing where responses have been received for an open question, and this gives you an accurate count of responses.
- Following this you will see a further dialog giving you options to confirm the type of each closed question variable (text/integer etc).
- On importing from Survey Monkey you will also see these dialogs.
- You will also see a summary of the final import which should be copied and pasted into the Log Book or a free memo so that it can be referenced in your final report as evidence of a key process in your analysis.

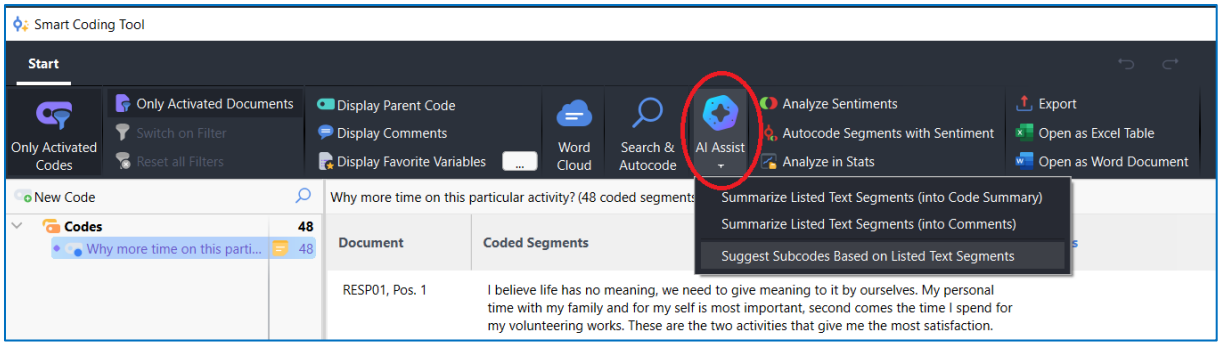
Project set up ready for analyzing the responses to one question:



- After importing the spreadsheet data, I have edited the name of the Document Group to call it “Survey”. I have activated that whole group of documents and the first question code in the Code System, so that the 48 responses (out of 55 cases) are displayed in the Retrieved Segments panel.
- I am ready to start the detailed analysis of this question with the “Categorize Survey Data” function (ringed in red) from the “Analysis” menu.
- It is a good idea to edit the Code Memo for each question so that it contains the full text of that question for easy reference during the analysis.
- In this screenshot, the Document Browser panel shows the full responses to both the open questions provided by the first respondent, but this is not generally the best place to analyze this sort of data.

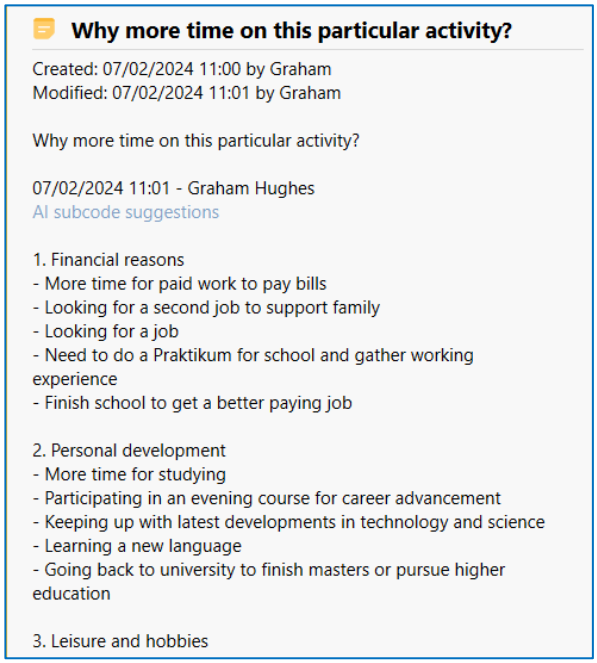


- Above, I have opened the Categorize Survey Data function with the data for the first open question. I have also clicked on the option "Display Favorite Variables" and selected the 4 variables for the questions that preceded this open question (*"If you could change your current time allocation, what would you spend more time on? Paid work/Unpaid work/Studying or further education/Leisure time or personal care? Please tick all that apply."*) and arranged the columns so that I can read as much of this data as possible.
- At this point, I have various possible ways of proceeding:
    - I could work manually, reading each response carefully and creating/selecting codes as applicable, or
    - I can use the Word Cloud and its word frequency tools to identify common answers and autocode those in blocks, or
    - I can create a Dictionary (or use an existing one where a survey is repeated several times) to code for multiple themes simultaneously based on key words or phrases.
- Note that if you want to use **AI Assist** with this data you will need to use the **Smart Coding tool** instead of this one. Let us look at that approach first, so close the Categorize Survey Data window, make sure you still have all the Survey documents activated and just the one question code activated, and open the Smart Coding tool from the Retrieved Segments toolbar.



I have ringed the AI Assist icon and shown the 3 possible functions within it in the screenshot above. For the survey type of data, I think that the 3rd may be the most useful ("Suggest Subcodes") and I will also look at the 2nd ("Summarize .. into Comments").

In the setup dialog for the "**Suggest Subcodes Based on Listed Text Segments**" function, I think that the setting "Add bullet list with examples for each code" is the one to tick. Please note that this does not create the codes or apply them to the data (yet – maybe that will come before too long) it just lists them in the **Code memo** for this question – as illustrated below:



Why more time on this particular activity?

Created: 07/02/2024 11:00 by Graham
Modified: 07/02/2024 11:01 by Graham

Why more time on this particular activity?

07/02/2024 11:01 - Graham Hughes
AI subcode suggestions

1. Financial reasons
- More time for paid work to pay bills
- Looking for a second job to support family
- Looking for a job
- Need to do a Praktikum for school and gather working experience
- Finish school to get a better paying job

2. Personal development
- More time for studying
- Participating in an evening course for career advancement
- Keeping up with latest developments in technology and science
- Learning a new language
- Going back to university to finish masters or pursue higher education

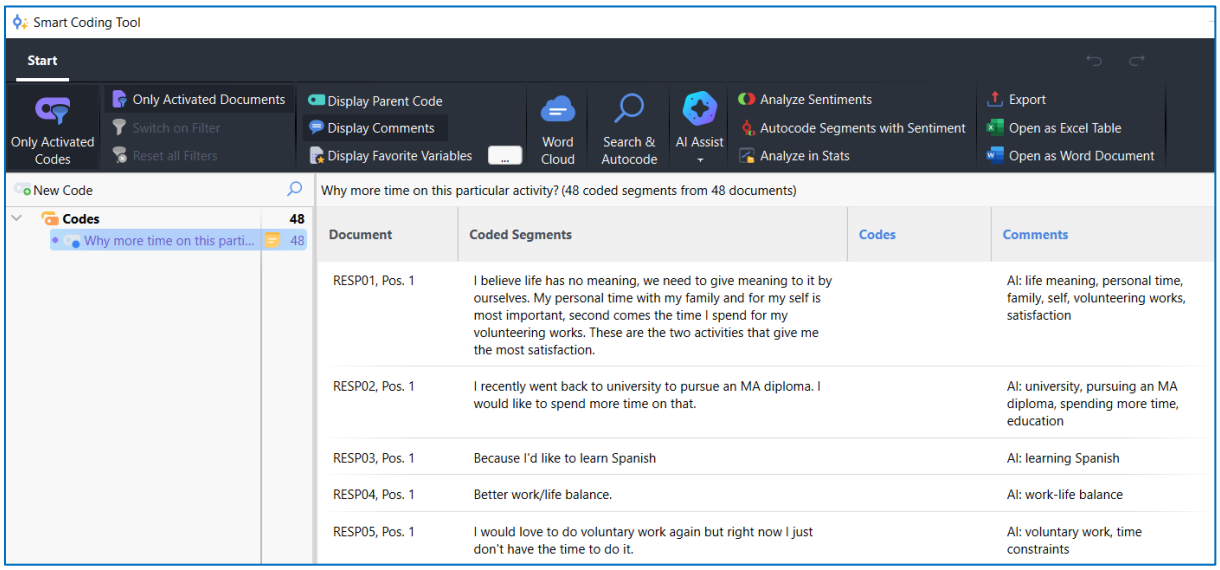
3. Leisure and hobbies

- The memo records that this was AI generated.
- Here is the first suggested subcode, with 5 identified application examples.
- Here is the second suggested subcode.
- A 3rd, and there are 4 more below.

You could use this list as a guide, create the main suggested subcodes, and then apply those to the data using a mixture of text searches with autocoding and manual coding, possibly doing this back in the Categorize Survey Data tool.

Next, explore the second AI Assist function inside the Smart Coding window, "**Summarize Listed Text Segments (into Comments)**". This is unlikely to be much help if you only have very short responses, but it could be very useful if

you have long and detailed answers to analyze. I have used the setting to generate a “Topic list” for the screenshot below.



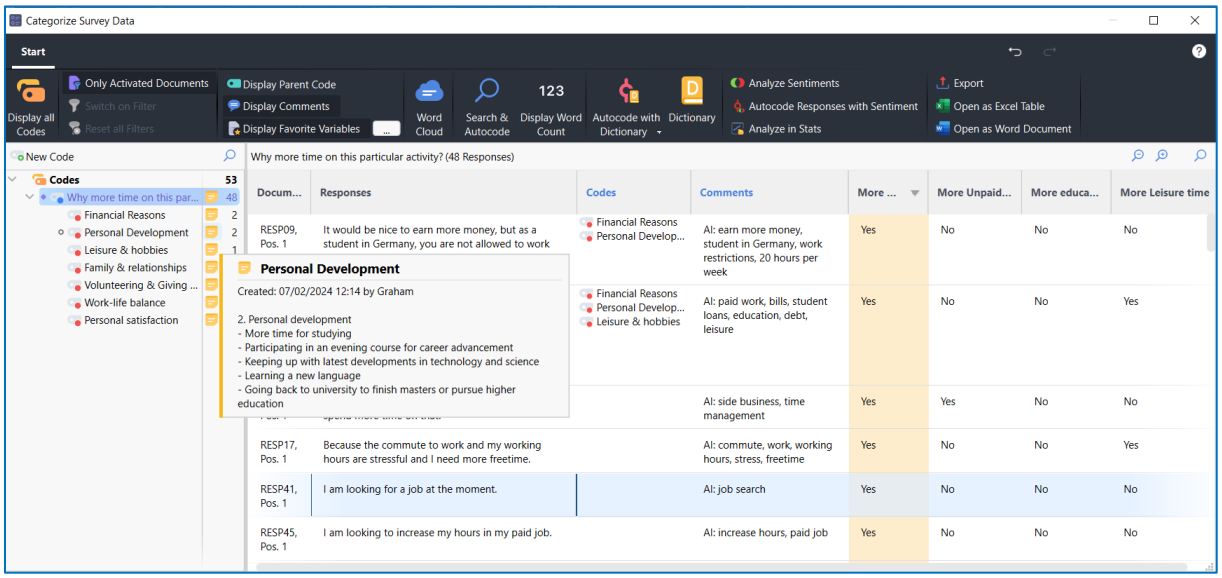
You can see the AI generated phrases in the “Comments” column to the right of the window displayed above. Many of these will be similar to the examples appearing in the suggested subcodes list from before, and these may help you to apply those suggested codes consistently.

You will need to judge for yourself, in the context of your own data and research objectives whether these tools are helpful, but they take very little time to try. Let us keep them and re-open the **Categorize Survey Data** tool.

In the screenshot below, I have already done several things.

- I have created the 7 subcodes suggested by AI Assist, and used copy/paste to add the relevant examples to their code memos. The memo for the “Personal Development” code is displayed.
- I have clicked on the “Display Comments” tool so that I can see the AI generated summaries from the last demonstration.
- I have clicked on the “Display Favorite Variables, and used the details box to select the responses to the closed questions preceding the one I am analyzing (“More paid work”, More unpaid work” etc).
- I have clicked in the column header for the “More paid work” variable to sort all the responses by these values, so that all the ones relating to more paid work are at the top of the list. This makes it easier to code for the “Financial Reasons” subcode.

- I have applied manual codes to the first few responses.



You can see above that I have already applied 2 codes to the first response and 3 codes to the second. On some occasions you may want to approach the task by looking for one subcode theme at a time and only apply that code each time you read a response that it applies to. Then re-sort the data by another of the variable columns, (say, “More education”) and concentrate on the code for that (say, “Personal Development”). On other occasions you may be happy to work from the Comments column and try to apply all of the applicable codes to each response segment, using just one pass through the entire response set for your main coding.

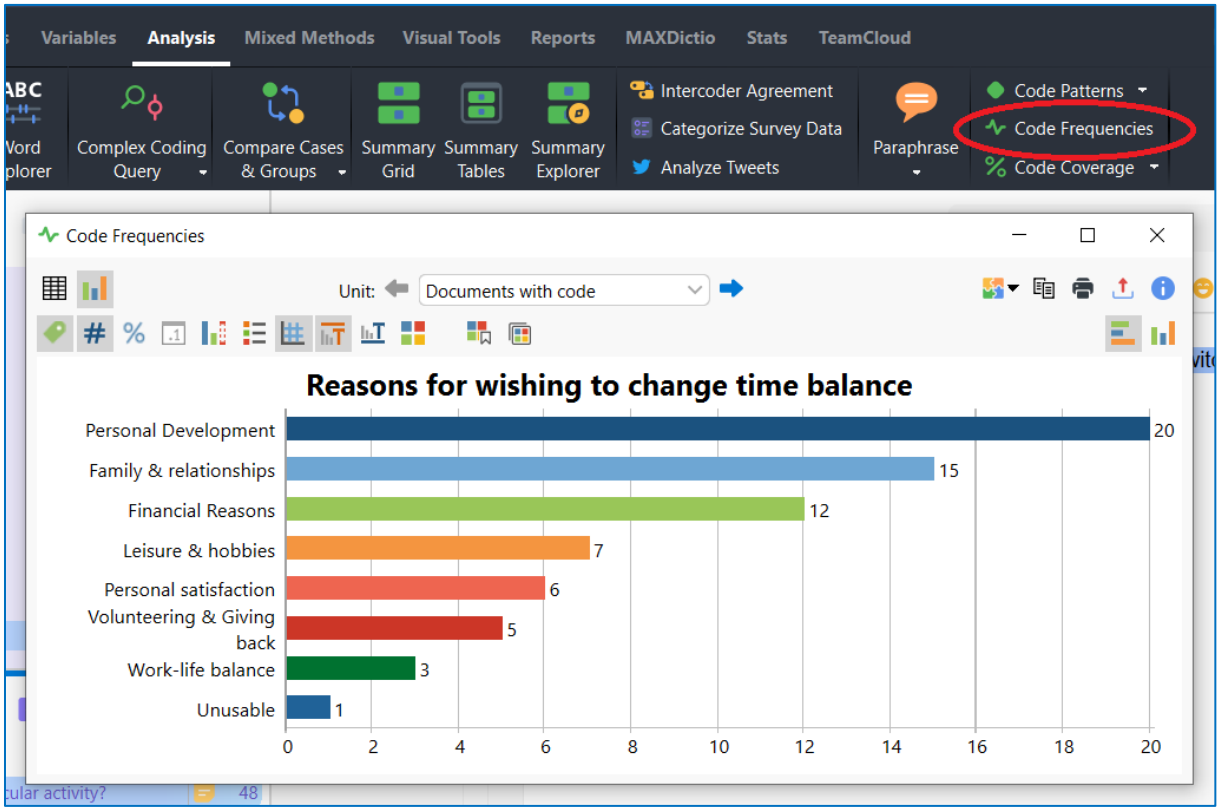
Note, just like the Smart Coding tool, for manual coding you have to drag the segment onto the desired code. This is because, if you try to drag the code to the text, you will find that the moment you click on the code label the list changes to just the segments already attached to that code, and you will not be able to see the segment you are working on!

However, you will appreciate this feature towards the end of your coding cycle because it makes it very easy to check that each code has been used consistently. Simply select each of the subcodes in turn and quickly skim read the responses in the main panel to confirm that they all have something in common.

Near the end of the process, you may also find it helpful to add a subcode for “Unusable” or “Not relevant” to be attached to the small number of answers that will be found for which no useful interpretation can be made. This helps to separate these from the other type of difficult responses which don’t fit any of

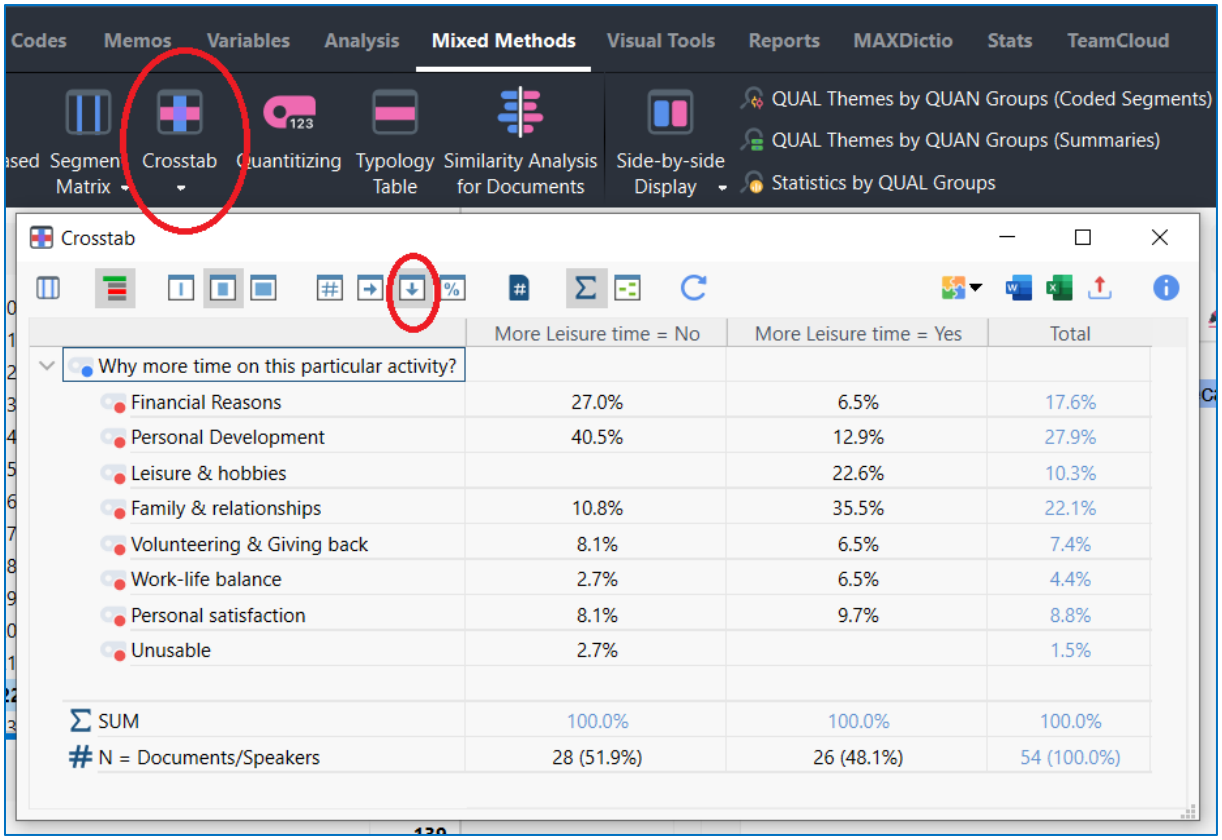
the common subcodes but which might be valuable because they come from those rare people who think “outside the box”.

Once the coding work has been done, we can think about reporting the basic results and exploring deeper analyses. Below is a simple Code Frequencies chart.



This was created using the **Analysis > Code Frequencies** tool. The full set of response codes for the first question was activated before starting the function. In the first dialog, I removed the header code (the question code itself) as it would skew the chart and doesn’t help the understanding. You can explore each of the toolbar options, which provide a wide range of facilities to change the way the chart is displayed.

We are not limited to simple frequency analyses. Within the survey there were closed questions and we can use some of those responses to deepen the analysis. Below is a **Mixed Methods >Crosstab** table which explores the comparison of the codes just applied between those who said they wanted more leisure time and those who did not.



	More Leisure time = No	More Leisure time = Yes	Total
Why more time on this particular activity?			
Financial Reasons	27.0%	6.5%	17.6%
Personal Development	40.5%	12.9%	27.9%
Leisure & hobbies		22.6%	10.3%
Family & relationships	10.8%	35.5%	22.1%
Volunteering & Giving back	8.1%	6.5%	7.4%
Work-life balance	2.7%	6.5%	4.4%
Personal satisfaction	8.1%	9.7%	8.8%
Unusable	2.7%		1.5%
SUM	100.0%	100.0%	100.0%
N = Documents/Speakers	28 (51.9%)	26 (48.1%)	54 (100.0%)

I have ringed the Crosstab function on the Mixed Methods menu ribbon, and also the column percentages option on the Crosstab toolbar.

As it happens the number of people answering yes and no to this question was very similar (the bottom row shows 26 for yes and 28 for no), but the column percentages remove distortions when those are very different. It is not very surprising, but this shows that those who wanted more leisure time wanted it for family & relationships (35.5%) and leisure & hobbies (22.6%), whereas those who didn't want more leisure time were mainly focused on personal development (40.5%) or financial reasons (27.0%).

MAXQDA repays the effort of coding these open-ended questions with excellent ways to relate the qualitative and quantitative elements in your survey data.

<u>Reference:</u>

Fielding J, Fielding N, and Hughes G : Opening up open-ended survey data using qualitative software: Quality and Quantity (2012)

Graham Hughes - MQIC 2024