

Introduction to NVivo: Qualitative Coding & Text Analysis

Digital Integration Teaching Initiative
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Qualitative Data Analysis
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Qualitative Coding

Qualitative coding is when you create a list of themes, or a **schema**, that you want to highlight in a set of primary/secondary sources. Then, you go through all your sources and highlight particular moments from the text according to those themes.

Agenda

- ❑ What is qualitative coding?
- ❑ What is NVivo?
 - Important NVivo-specific vocabulary and functions
 - NVivo demonstration
 - Understand how to use NVivo as a research tool
 - Learn the differences between NVivo file types and why knowing this is important

Slides and handouts available at: <https://bit.ly/fa25-dominguez-insh7102-multi>

Getting started: Qualitative Coding with NVivo

What is NVivo?

- ❑ NVivo is a **text analysis** and **research organization** software that is available through [Northeastern's Student Hub](#) > Resources > IT Services > Software Downloads.
- ❑ NVivo provides methods for you to annotate and code documents with user-created tags (codes), summarize and visualize these codes, and organize research materials.

What is NVivo Useful For?

NVivo is particularly helpful for organizing and annotating research materials such as:

- ❑ **Primary sources:** any primary sources you may be analyzing such as letters, field notes, or documents from an archive
- ❑ **Secondary sources:** scholarly articles, newspaper articles, book chapters.
- ❑ **Your own notes** about your project (you can even compose

in NVivo!)

Other functions of NVivo

- ❑ Create projects that store, organize, and code documents/files
- ❑ Provide a method for you to code your documents with a user-created coding schema (codes)
- ❑ Query, summarize, organize, and visualize information about your coding
- ❑ Conduct forms of computational text analysis, like word counts, on the documents, themselves
- ❑ Conduct social network analysis with social media datasets

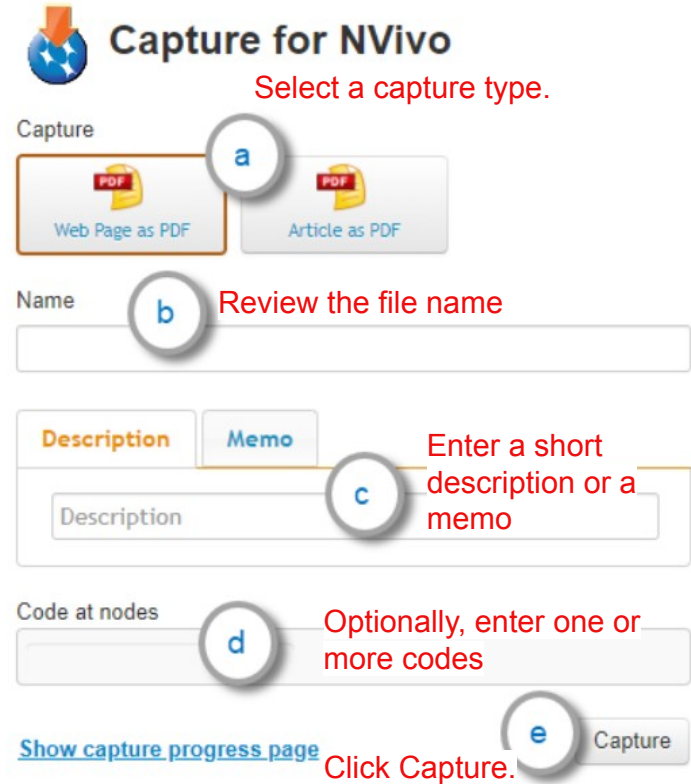
NVivo Vocabulary

Full definitions available [on the NVivo handout](#)

- ❑ **Data:** your research documents & files
- ❑ **Codes:** the ways to annotate the themes/concepts in your research.
- ❑ **Nodes:** the themes/concepts that are user-created (NVivo 12 and older only)
- ❑ **Relationships:** coding connections between two data items
- ❑ **Cases:** units of analysis for your research.
- ❑ **Maps:** visualization tool to see connections between the cases and codes
- ❑ **Query:** a flexible way to explore and analyze your files, cases, and codes

NCapture

- ❓ NCapture is a free Chrome extension to capture web pages, online articles, Facebook and Youtube content and add annotations, memos, and codes. The captured content is saved as an NCapture file (.nvcx) which you can import into your NVivo project.
- ❓ Please be mindful of obtaining consent for individual information you are capturing. Be aware of the current website terms and conditions when capturing data.



The screenshot shows the 'Capture for NVivo' interface. It includes a 'Capture' section with two buttons: 'Web Page as PDF' (labeled 'a') and 'Article as PDF'. Below this is a 'Name' field (labeled 'b') with the instruction 'Review the file name'. There are two tabs, 'Description' and 'Memo', with a text input field below them (labeled 'c') and the instruction 'Enter a short description or a memo'. Below that is a 'Code at nodes' field (labeled 'd') with the instruction 'Optionally, enter one or more codes'. At the bottom, there is a link 'Show capture progress page' and a 'Capture' button (labeled 'e') with the instruction 'Click Capture.'.

Capture for NVivo

Select a capture type.

Capture

a

Web Page as PDF

Article as PDF

Name **b** Review the file name

Description Memo

c Enter a short description or a memo

Description

Code at nodes **d** Optionally, enter one or more codes

[Show capture progress page](#)

e Click Capture. Capture

Feel free to ask questions at any point during the presentation!

Querying

Querying, or asking something from your data, in NVivo provides multiple ways to explore both your codes and your text.

- ❓ **Word Frequency:** Counts the number of times words (with stopwords removed) appear in one or more files. Stopwords have non-significant meaning and appear frequently, like “the”, “a,” “is,” etc. They can inflate word frequencies without adding meaning, and are typically removed.
- ❓ **Coding:** Shows the number of codes, text that was coded, and the files.
- ❓ **Crosstab:** cross reference codes and case classifications. For example, you might want to know how often a particular code appears in both scholarly articles and your primary texts.

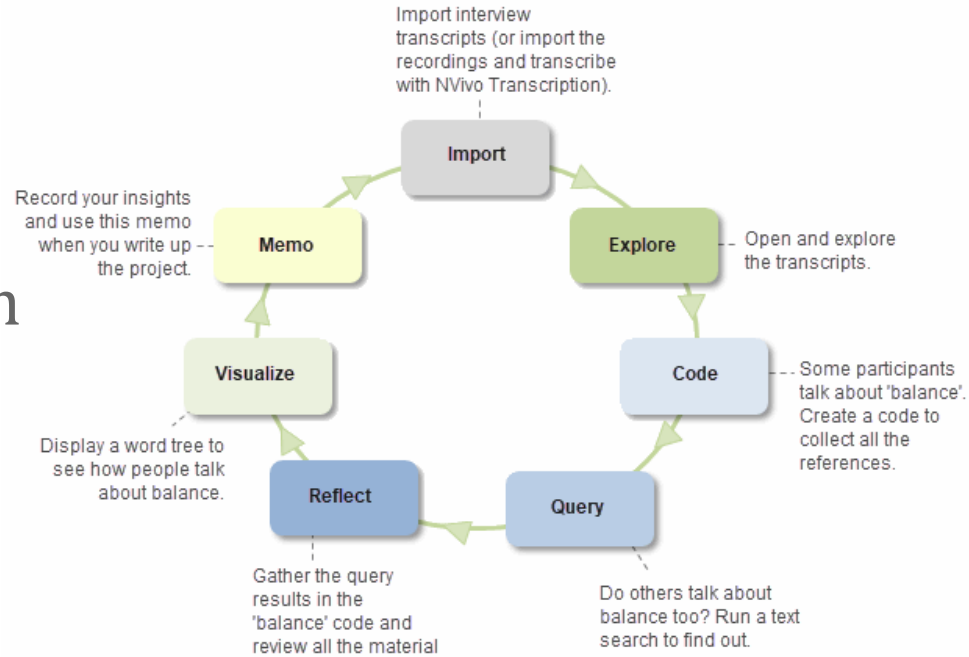
Coding & Organizing Literature Reviews

You can import reference files from EndNote, Zotero, and other citation management tools to organize a literature review. In your citation management tool, export the library as an XML (EndNote) or RIS file (Zotero).

1. Select the XML or RIS file from your directory.
2. Choose to display references by Author and Year, or Title.
3. Select the option to assign data to the Reference classification, or to other classifications (book, journal article, etc).
4. Select the option to replace attributes or memos with file notes, abstract, and keywords.
5. Click Import.

Making effective codes

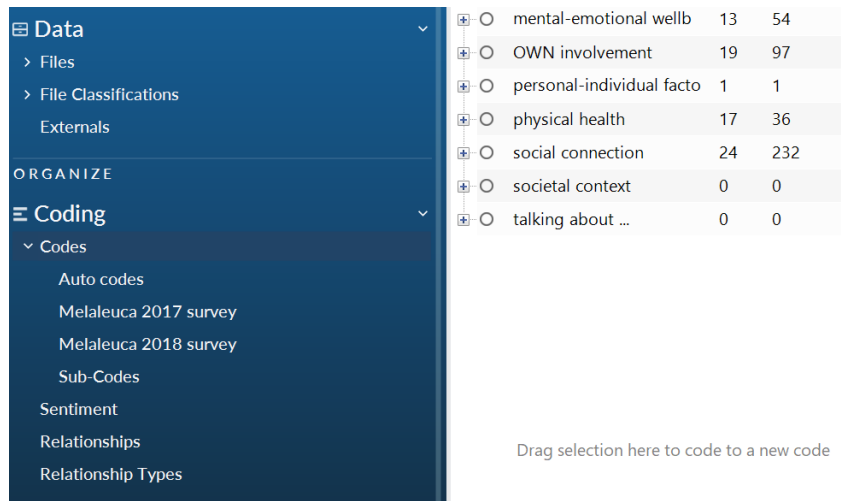
The codes you create are themselves **arguments**; you are choosing what information you value and want to extract from the transcripts. This is often an iterative process.



Source: Lumivero - Workflow Overview

Codes

The list of themes or codes you will use to code your files. The “**codes**” folder will be empty until you add your own! You can add codes and sub-codes.



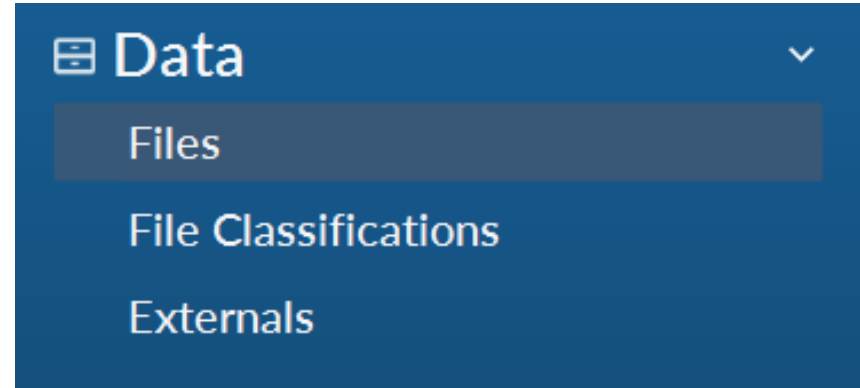
The screenshot shows a software interface with a dark blue sidebar on the left and a white main area on the right. The sidebar has a 'Data' section with a dropdown arrow, containing 'Files', 'File Classifications', and 'Externals'. Below this is an 'ORGANIZE' section, followed by a 'Coding' section with a dropdown arrow. The 'Coding' dropdown is open, showing a 'Codes' folder with a minus sign, and several sub-codes: 'Auto codes', 'Melaleuca 2017 survey', 'Melaleuca 2018 survey', 'Sub-Codes', 'Sentiment', 'Relationships', and 'Relationship Types'. The main area on the right displays a list of codes with their counts. Each code has a plus icon in a circle to its left. The codes and their counts are: 'mental-emotional wellb' (13, 54), 'OWN involvement' (19, 97), 'personal-individual facto' (1, 1), 'physical health' (17, 36), 'social connection' (24, 232), 'societal context' (0, 0), and 'talking about ...' (0, 0). Below the list, there is a text prompt: 'Drag selection here to code to a new code'.

+	mental-emotional wellb	13	54
+	OWN involvement	19	97
+	personal-individual facto	1	1
+	physical health	17	36
+	social connection	24	232
+	societal context	0	0
+	talking about ...	0	0

Drag selection here to code to a new code

Data

The “**Data**” in NVivo are all the research materials you are using (scholarly articles, transcriptions, newspapers, research notes, etc.).



“**Files**” will be where you can access all the research materials you have imported into this project.

Important Reminders

- ❓ NVivo can import all types of files, including .docx, .pdf, .doc, .csv, .png, .jpeg, .txt, video/audio files, and more.
- ❓ You should always **save** your original documents on your local computer or in cloud storage, even if these documents are imported into NVivo. NVivo can store documents, but it is more of an organization and analysis tool, rather than a storage option.

NVivo is NOT crossplatform friendly

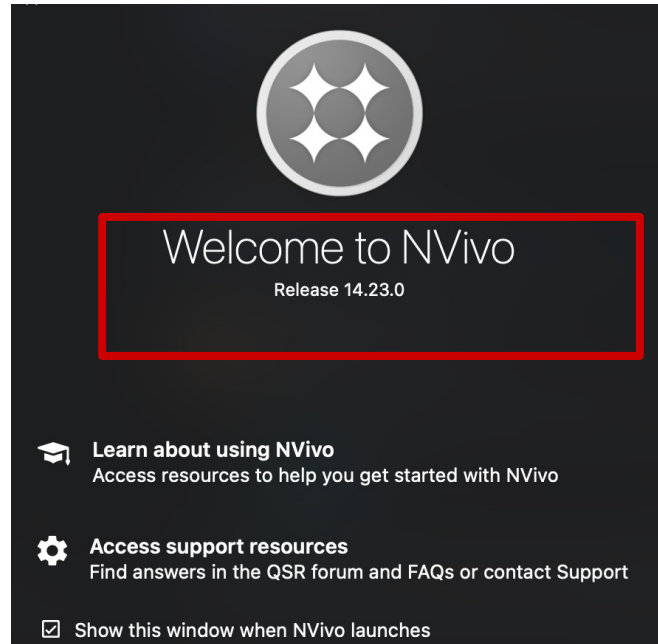
The Mac and PC versions of Nvivo—as well as the version numbers—are different and have different file types.

- ❑ Mac NVivo projects end in .npvx and can only open that file project type
- ❑ Windows NVivo projects end in .npv, but can open both .npv *and* .npvx
- ❑ Version numbers (11, 12, 14) also impact which projects can be opened on which platform

Anatomy of Nvivo: Mac

Anatomy of NVivo: Opening on Macs

Your version number (you should have version **12** or **14**)



PROJECTS

+ Create New Project

Sample Project (create a copy)
Explore and experiment with a sample project.

More Sample Projects ☐
Browse the range of sample projects...

RECENT

Recent projects will appear here

Collaboration Cloud

Open

Create a new **project** (stores all your documents, codes, etc)

The recent projects you opened

Open another project that is not recent

Anatomy of NVivo: Projects on Macs

Menu to access files, codes, cases, notes, etc.

Name	Codes	References	Created on	Created by	Modified on	Modified by	Color
About the NVivo for Mac...	0	0	8/10/15, 12:17 AM	WWS	1/28/20, 11:52 PM	WWS	
Overview of Sample Proje...	0	0	7/21/10, 3:37 PM	WWS	11/9/15, 10:40 PM	WWS	

Toolbar to access functions

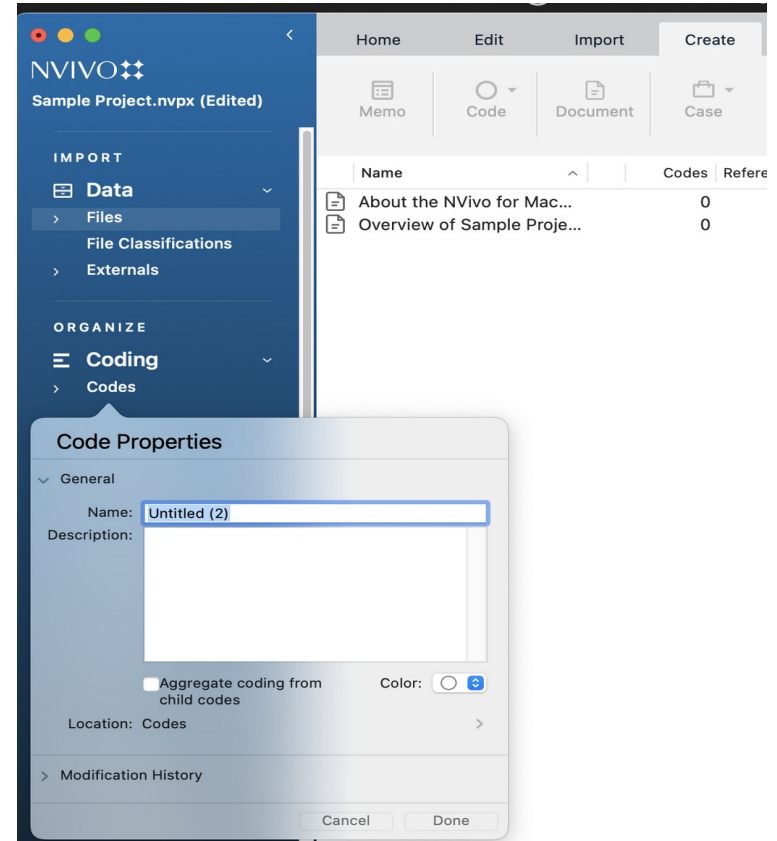
The window that will open the files, queries, etc. You can annotate documents here.

List of codes, files, etc.

Feel free to ask questions at any point during the presentation!

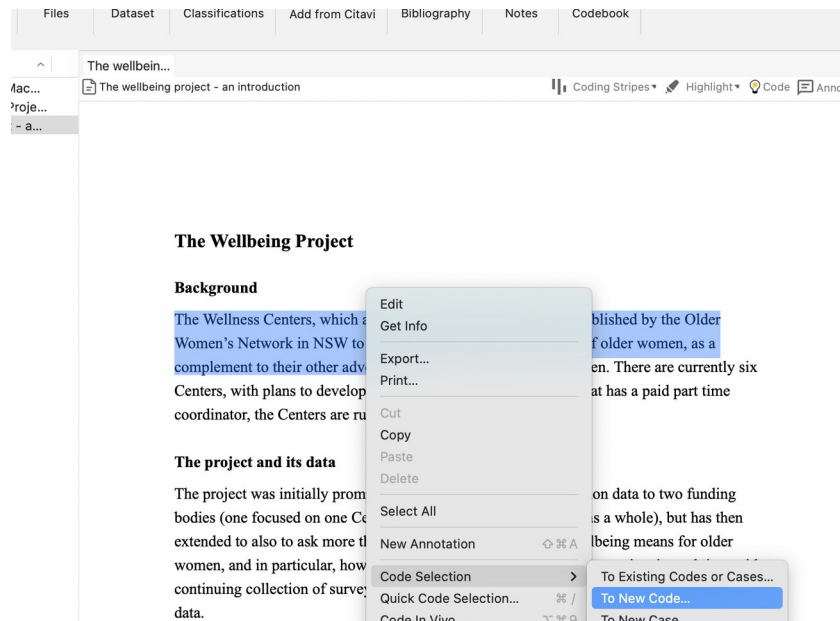
Creating Codes (Macs)

1. Go to “Create” in the toolbar
2. Click “Code”
3. Your new code will pop up and ask for a name and description
 - a. To add a *subcode*, follow the same steps, but click on the original code where you want to add the subcode



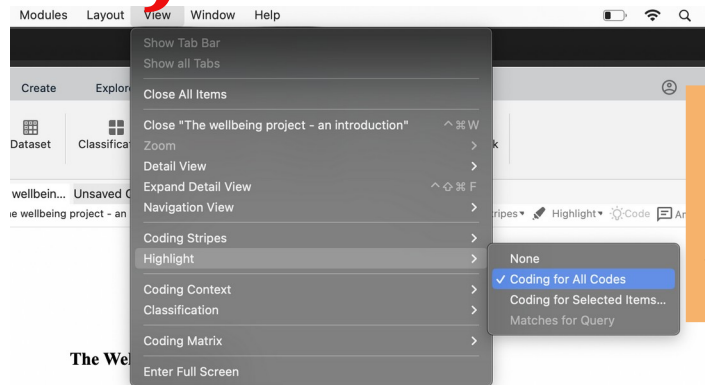
Coding Files/Documents (Macs)

1. Open the file you would like to annotate.
2. Highlight the text you want to code.
3. Control-click and go to “Code Selection.”
4. Click “At Existing Codes or Cases”
 - a. Once you use codes, the codes will show up when you click “Code Selection.”
 - b. You can also add new codes/cases as you annotate.



View Your Codes (Macs)

1. Go to “View” in the toolbar
2. Click “Highlight” then “Coding for All Codes”
3. Click “Coding Stripes” and “All Coding” to see the code names and where they appear in the document.
 - a. If you have tagged an entire file as a “case,” everything will be highlighted. Choose “Coding for Selected Items” to select the codes you’d like to view.



Coding stripes (shows what codes appear where in the doc)

Background

The Wellness Centers, which are the focus of this study, were established by the Older Women's Network in NSW to enhance the health and wellbeing of older women, as a complement to their other advocacy work on behalf of older women. There are currently six Centers, with plans to develop more. With the exception of one that has a paid part time coordinator, the Centers are run by volunteers.

The project and its data

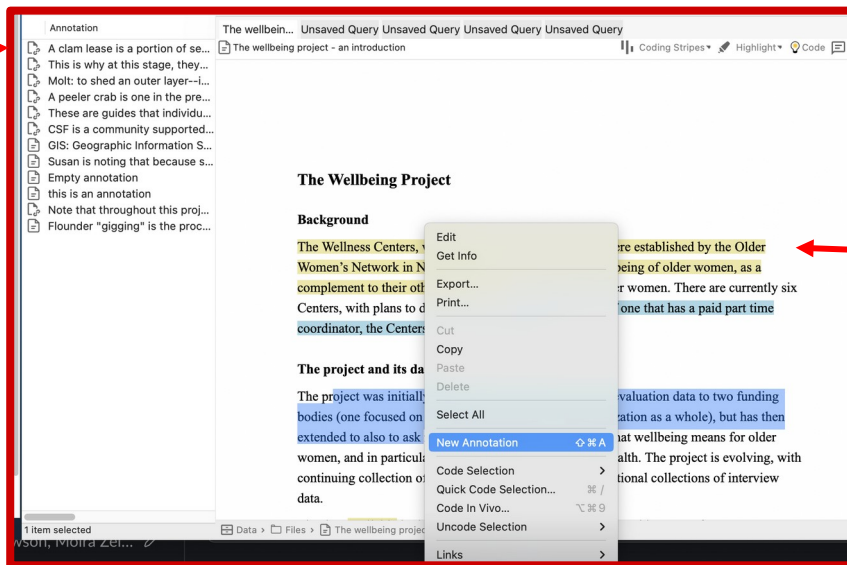
The project was initially prompted by the need to provide evaluation data to two funding bodies (one focused on one Center, the other on the organization as a whole), but has then extended to also to ask more theoretical questions about what wellbeing means for older women, and in particular, how wellbeing intersects with continuing collection of survey data, and occasionally data.

Your document you are coding and annotation (yellow = codes, blue = annotations)

Annotating Files (Macs)

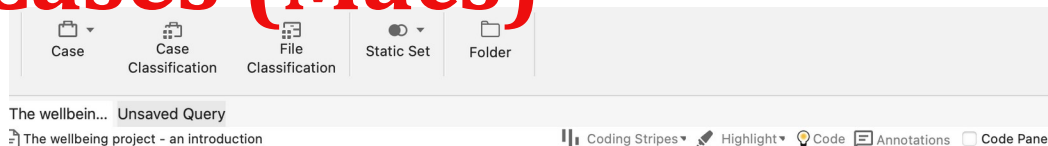
To annotate (comment), follow the same steps as coding except instead click “New Annotation” after you highlight and control-click to reach the pop-up shortcut menu. Find all your annotations in the “Notes/Annotations” section in the left menu

List of
annotations



The text from the
document you
highlighted and
are annotating

Cases (Macs)



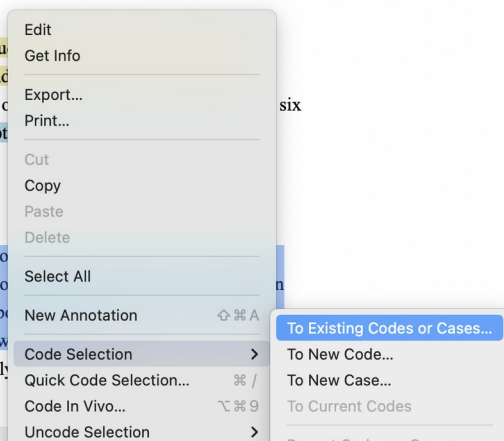
The Wellbeing Project

Background

The Wellness Centers, which are the focus of this study, are part of the Women's Network in NSW to enhance the health and complement to their other advocacy work on behalf of women. The Wellness Centers, with plans to develop more. With the exception of the coordinator, the Centers are run by volunteers.

The project and its data

The project was initially prompted by the need to provide support for women (one focused on one Center, the other on the other). The project extended to also ask more theoretical questions about the project, women, and in particular, how wellbeing intersects with the project's continuing collection of survey data, and occasionally, data.



To add a “case” to a file, it’s the same method as adding a code, except you choose the “Cases” folder and the proper case.

Word Frequency Example (Mac)

Click the word frequency tab, then select the items you would like to query in the “Selected Items” tab and then click “Run Query.”

The wellbein... Unsaved Query Unsaved Query Unsaved Query

Unsaved Query

Word Frequency Criteria

Search in: Files and Externals **Selected Items** Items in Selected Folders

Finding matches: ☒ Exact match only (e.g. "talk")
☐ Include stemmed words (e.g. "talking")

With minimum length: 3

Display words: ☐ All ☒ 1000 most frequent

Run Query Save Criteria...

Query results exclude project stop words. Add or remove stop words in project properties.

Summary Word Cloud

Word	Length	Count	Weighted Percentage
older	5	2,874	1.31%
health	6	2,745	1.25%
people	6	2,356	1.08%
care	4	1,746	0.80%
doi	3	1,162	0.53%
physical	8	1,076	0.49%
age	3	1,056	0.48%
ageing	6	1,029	0.47%
activity	8	945	0.43%
http	4	860	0.39%
social	6	853	0.39%
life	4	728	0.33%
well	4	722	0.33%
org	3	700	0.32%
may	3	679	0.31%

Crosstab Example (Mac)

Hit Explore,
Queries, then
Crosstab, and
Select the codes
you would like to
cross reference
with the cases or
attributes, then
click “Run Query.”

Selected codes (click the plus sign)

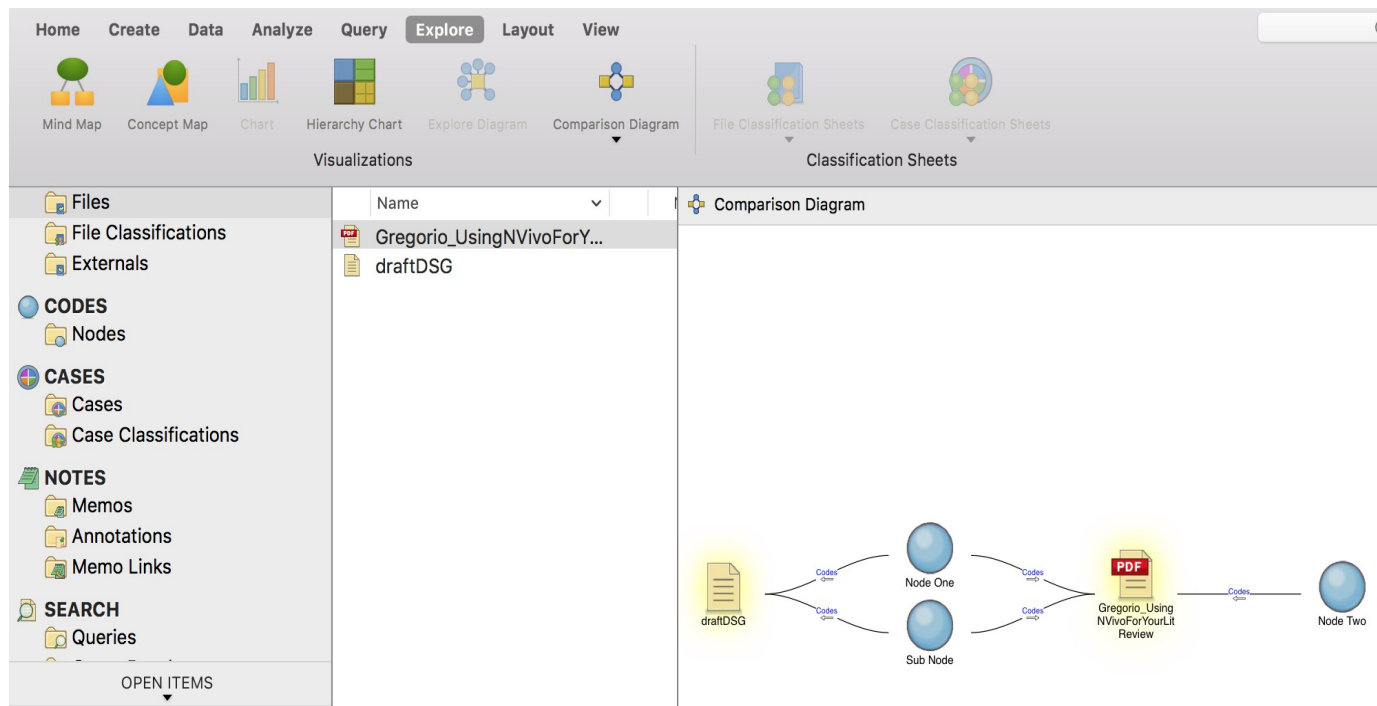
Your results

Selected codes

Selected cases (click the plus sign)

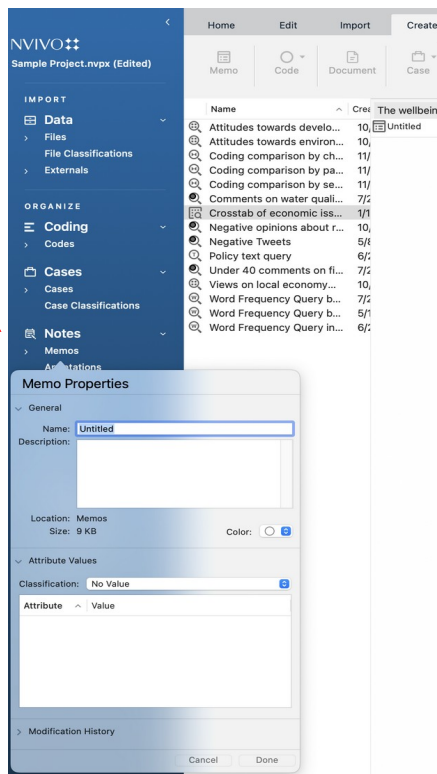
Exploring Codes (Macs)

Comparison
diagram
example

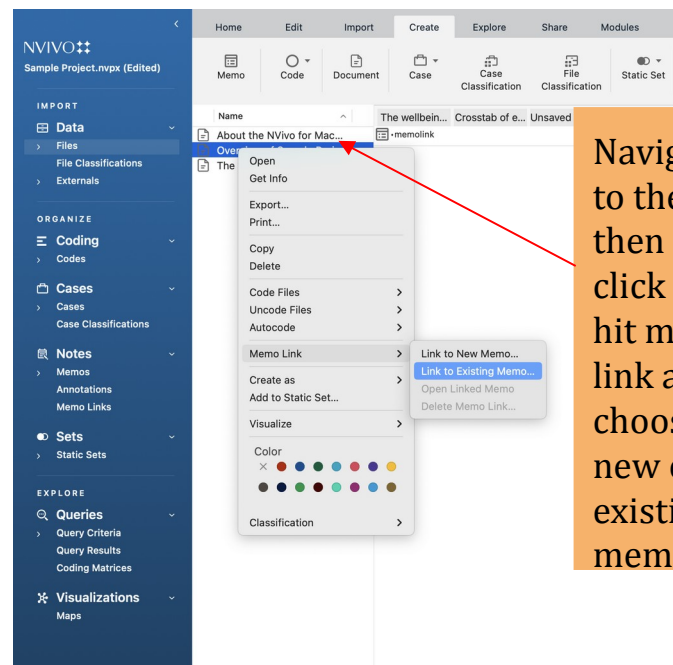


Memos and Memo Links (Macs)

Menu where memos are located



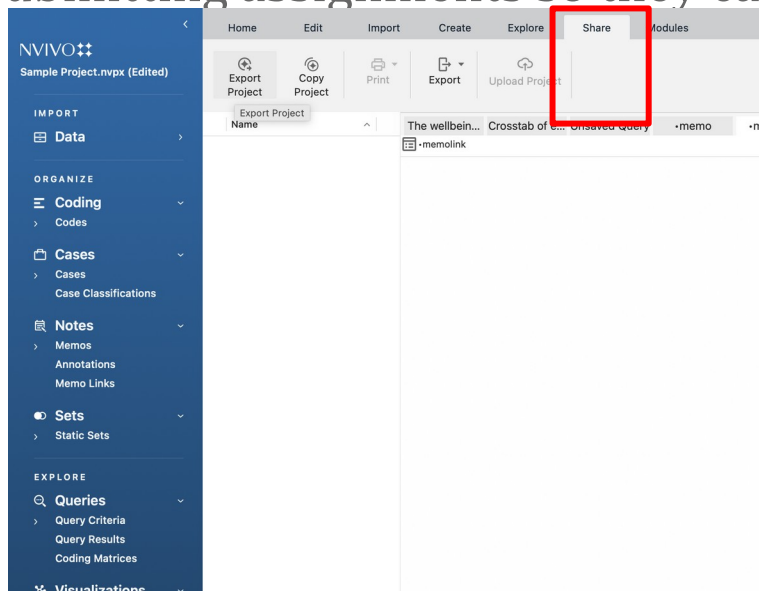
Navigating memo creation (hit create, then memo)



Navigate to the file, then right click and hit memo link and choose a new or existing memo

Exporting Your Project (Macs)

Since there is a cross-platform problem, **save and export your projects as .qdpX files** when submitting assignments so they can be opened on both Macs and Windows!



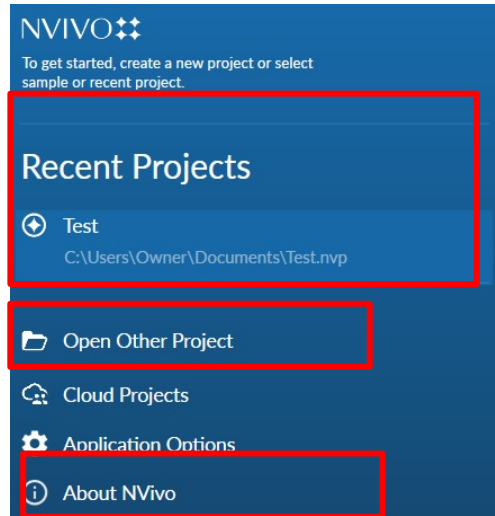
Anatomy of Nvivo: Windows

Anatomy of NVivo: Opening on Windows

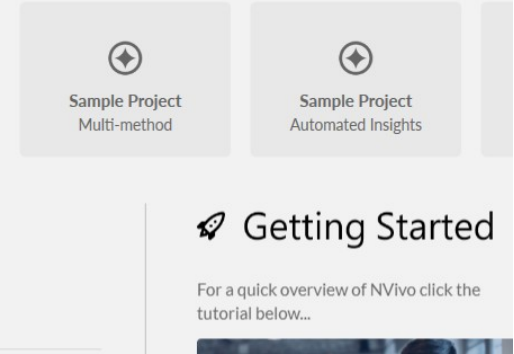
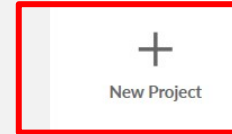
The recent projects you opened

Open another project that is not recent

Your version number (you should have version **12** or **14**)

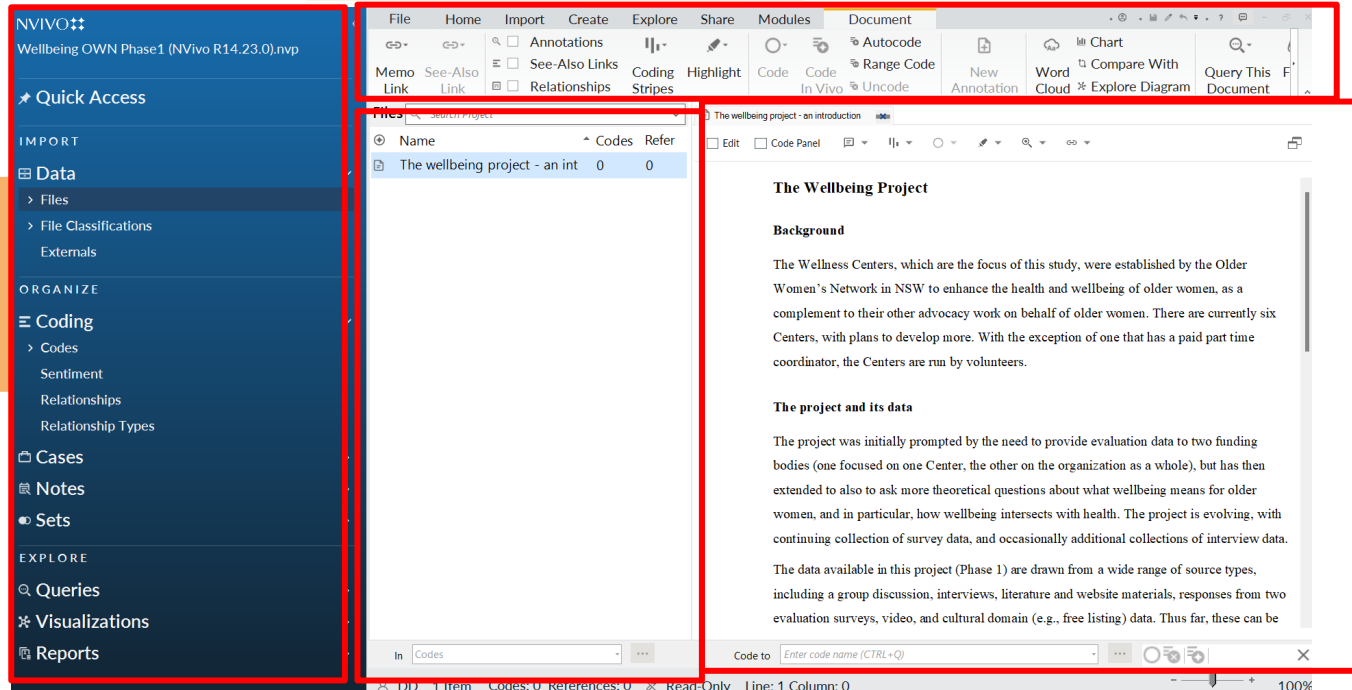


Create a new **project** (stores all your documents, codes, etc)



Anatomy of NVivo: Projects on Windows

Toolbar to access functions

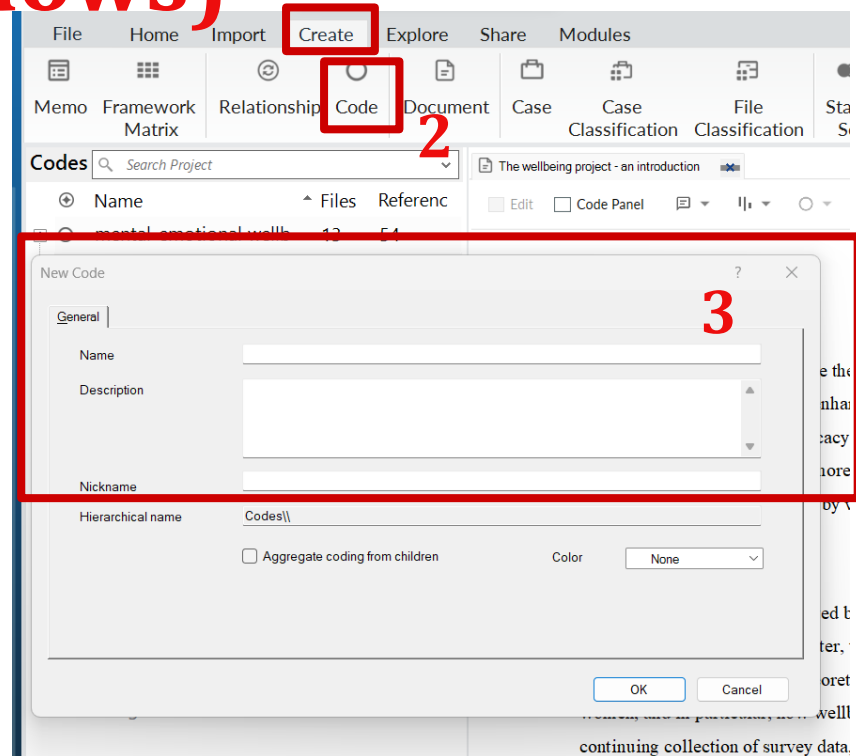


The window that will open the files, queries, etc. You can annotate documents here.

List of codes, files, etc.

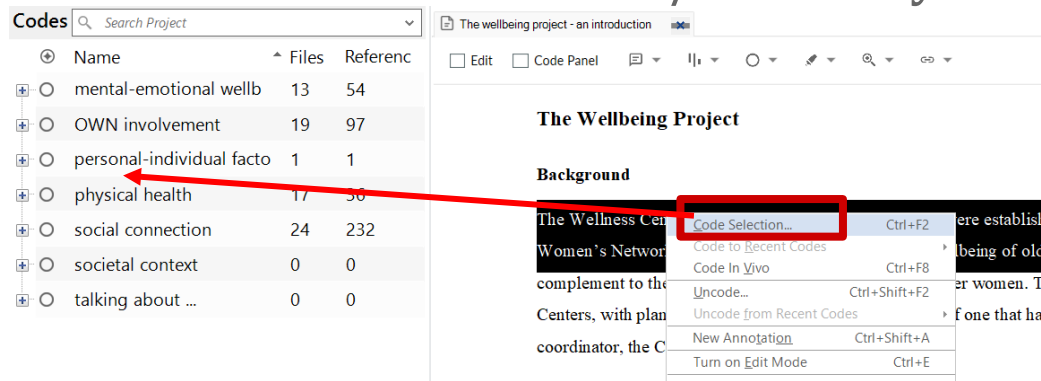
Creating Codes (Windows) ¹

1. Go to “Create” in the toolbar
2. Click “Code”
3. Your new code will pop up and ask for a name and description
 - a. To add a *subcode*, follow the same steps, but click on the original code where you want to add the subcode



Coding Files/Documents (Windows)

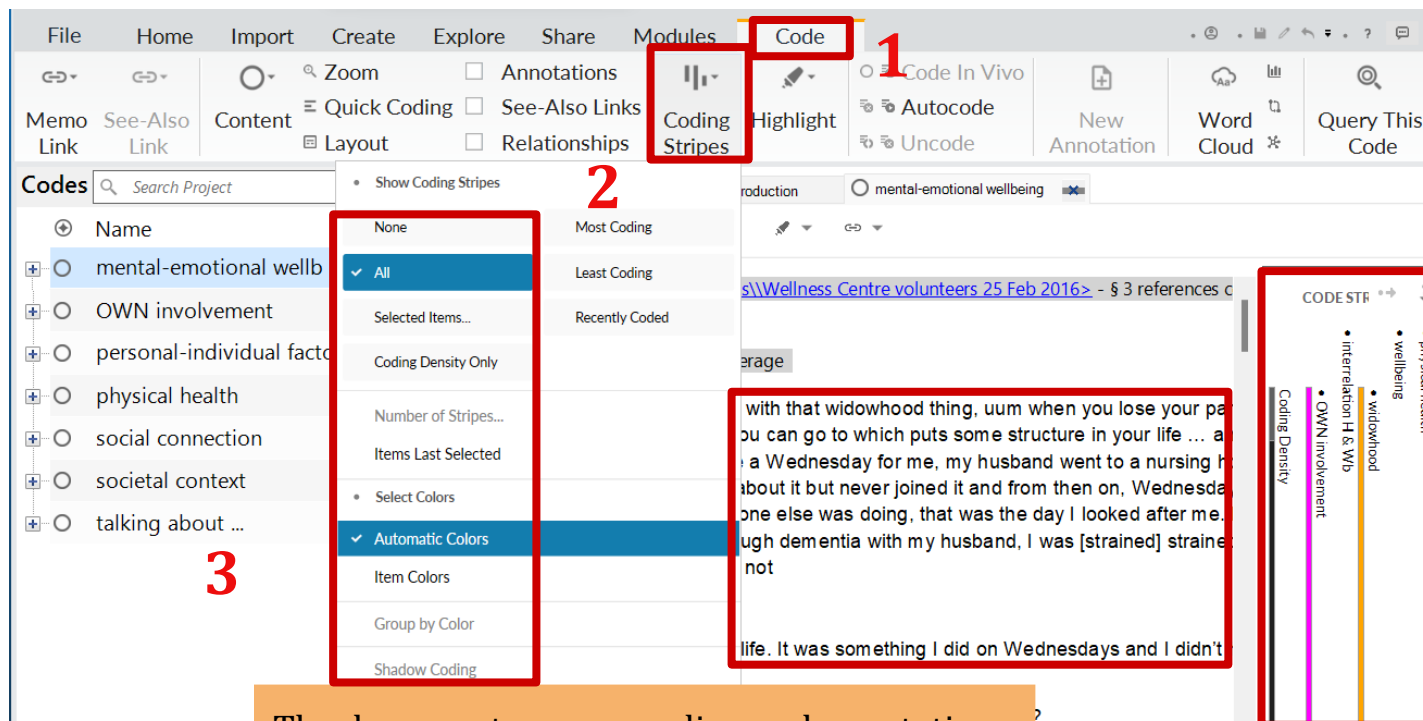
1. Open the file you would like to annotate.
2. Highlight the text you want to code.
3. Drag and drop the selection onto a code.
4. Alternatively, you can right-click and select “Code.”
5. You can also add new codes/cases as you annotate.



View Your Codes (Windows)

1. Go to “Document” in the toolbar
2. Click “Highlight” then “All Coding”
3. Click “Coding Stripes” and “All Coding” to see the code names and where they appear in the document.
 - a. If you have tagged an entire file as a “case,” everything will be highlighted. Choose “Coding for Selected Items” to select which codes you’d like to view.

View Your Codes (Windows)



Coding stripes (shows what codes appear where in the doc)

The document you are coding and annotations

Feel free to ask questions at any point during the presentation!

Annotating Files (Windows)

To annotate (comment), follow the same steps as coding except instead click “New Annotation” after you highlight and right click. Find all your annotations in the “Notes/Annotations” section in the left menu

The screenshot shows the software interface with several key components highlighted by red boxes and orange callouts:

- Left Menu:** The 'Notes' section is expanded, and 'Annotations' is selected.
- Annotations List:** A table listing annotations with columns 'File Name' and 'Number'.

File Name	Number
Acacia L	1
Melaleuca 2017 survey	1
Melaleuca 2017 survey	2
Stathi et al AVONet-repor	1
Waratah G - Pre	1
Ward et al Well Being in	1
- Document View:** A text document is open with a paragraph highlighted. An annotation is attached to the highlighted text.
- Annotation Detail:** A box shows the annotation content: 'L: Particular experience – there's so many capable women in the community, in the society. They are all very, how do you put it, dedicated. Like this Wellness in the committee, people are so dedicated, you know, moneywise as well timewise especially. We are all volunteers, so I really admire women, especially older women, for what they do.'
- Annotations Table (Bottom):** A table showing the annotation item and its content.

Item	Content
1	This (and the next) paragraph are referring to the centre rather than the concept

The text from the document you highlighted and are annotating

List of annotations

Where you can find all your annotations listed

Your annotation

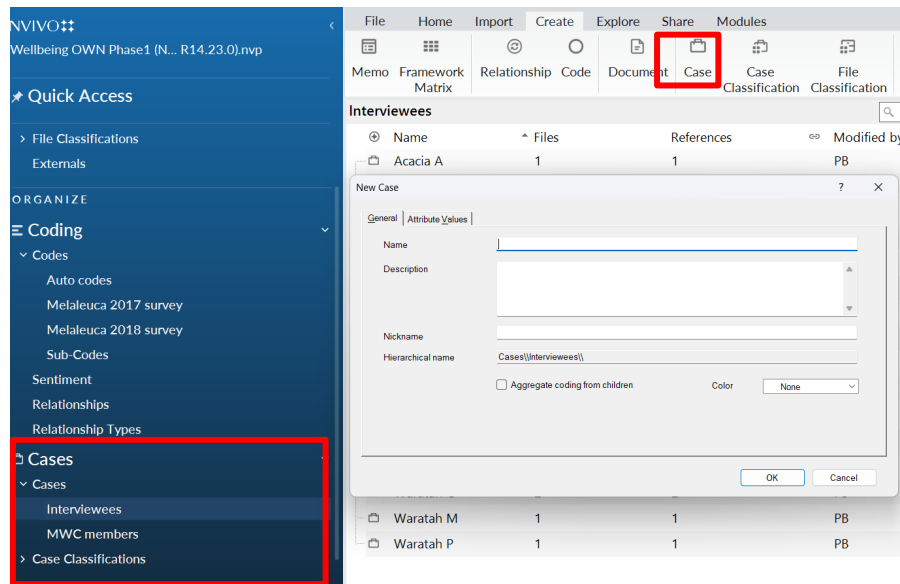
Feel free to ask questions at any point during the presentation!

Cases (Windows)

Cases are the types of research texts in your project and can be organized based on the user's choice. **“They might represent people, places, events, organizations or other entities that you want to analyze and compare.”** For example, if you have several transcripts from different trials, but want to categorize the type of trial for each text, you would use cases to do so.

“About Cases”, NVivo

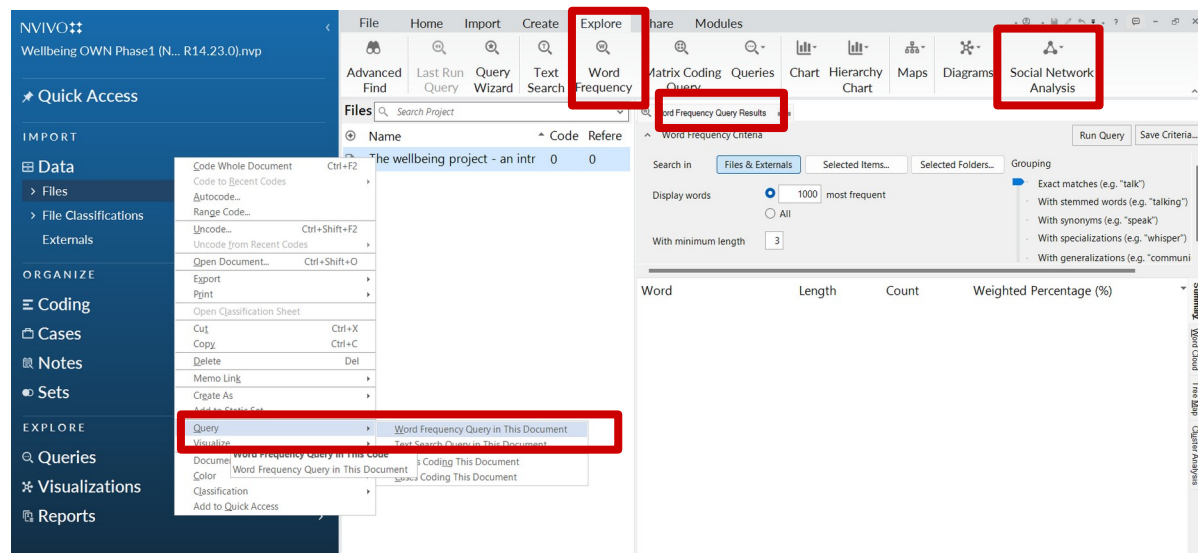
To add a “case” to a file, it’s the same method as adding a code, except you choose the “Cases” folder and the proper case.



Feel free to ask questions at any point during the presentation!

Word Frequency Example (Windows)

- ❓ “Query” can be found in the “Explore” Tab
- ❓ Alternatively, you can right click on a file and select Query
- ❓ To query multiple items, select the items you would like to query in the “Selected Items” tab and then click “Run Query”



Crosstab Example (Windows)

Select the codes you would like to cross reference with the cases or attributes, then click “Run Query.”

The screenshot shows the 'Crosstab' window in a software application. The 'Crosstab Criteria' section on the left has a red box around the 'Codes' list, which contains 'Codes\\mental-emotional wellbeing'. An orange box with the text 'Selected codes (click the plus sign)' points to this list. To the right, the 'Cases' list is also highlighted with a red box, containing several case names like 'Cases\\Interviewees\\Acacia A'. An orange box with the text 'Selected cases (click the plus sign)' points to this list. At the bottom, a table of results is shown, with a red box around it and an orange box labeled 'Your results' below it. The table has columns for the code, the case, and a total count.

	mental-emotional wellbeing	Total
Acacia A	2	2
Acacia B	0	0
Acacia L	1	1
Acacia V	0	0
Correa C	2	2
Correa P	0	0
Total	5	5

Exploring Codes (Windows)

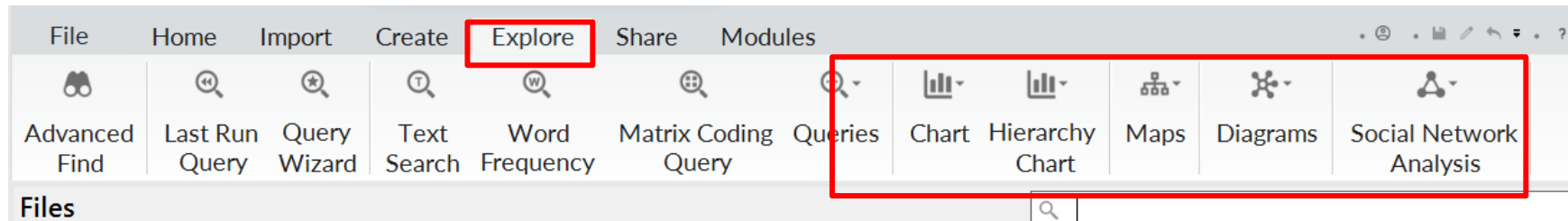
Chart: bar chart of the number of times codes were used in a file

Hierarchy chart: visualizes number of codes used in a file

Explore Diagram: explore the codes used in a file

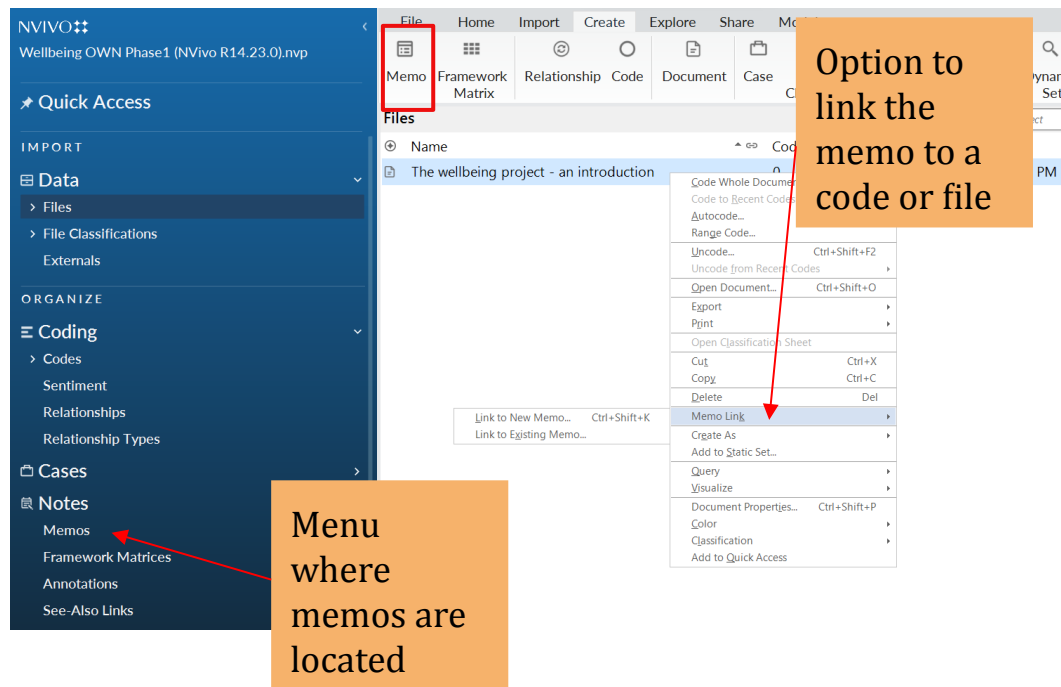
Comparison Diagram: compare the codes used in multiple files

Social Network Analysis: visualize relationships within networks



Memos (Windows)

- ? Memos are more extended write-ups of your analytical insights
- ? They can stand alone, but also be linked
- ? “Memo link”: linking memo to a particular file, case, or code



Memo Links (Windows)

Showing the link between the file and the memo

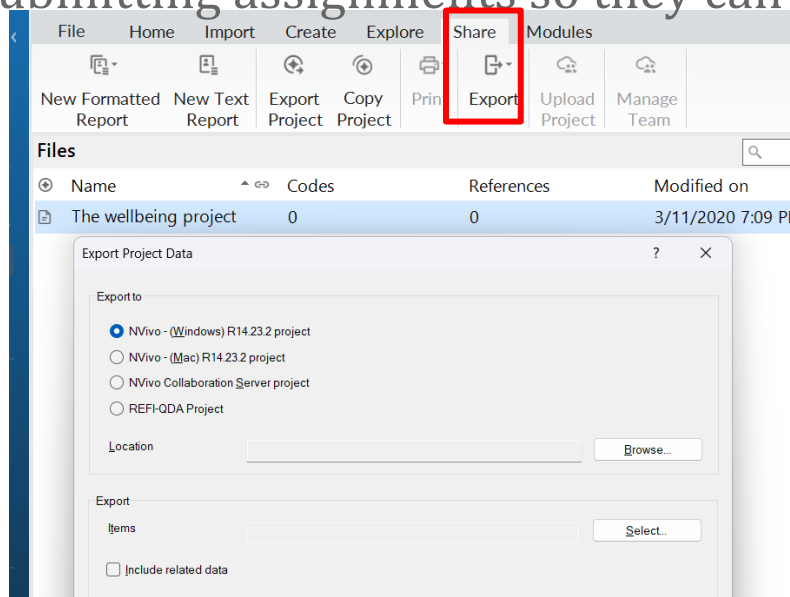
The screenshot displays the NVIVO software interface. On the left, a dark blue sidebar contains a 'Quick Access' section and a list of project components: Data, Coding, Cases, and Notes. The 'Data' section is expanded, showing 'Files', 'File Classifications', and 'Externals'. The 'Coding' section is also expanded, showing 'Codes', 'Sentiment', 'Relationships', and 'Relationship Types'. The 'Cases' section is expanded, showing 'Cases'. The 'Notes' section is expanded, showing 'Memos', 'Framework Matrices', 'Annotations', and 'See-Also Links'. A red arrow points from the 'Showing the link between the file and the memo' text to the 'Memo Link' option in the 'Coding' section. Another red arrow points from the 'Accessing the memo from the file' text to the 'Open Linked Memo' option in the 'Memo Link' submenu. The main window shows a file named 'The wellbeing project' with a code value of 0 and a reference value of 0. The 'Memo Link' submenu is open, showing options: 'Code Whole Document' (Ctrl+F2), 'Code to Recent Codes', 'Autocode...', 'Range Code...', 'Unicode...' (Ctrl+Shift+F2), 'Unicode from Recent Codes', 'Open Document...' (Ctrl+Shift+O), 'Export', 'Print', 'Open Classification Sheet', 'Cut' (Ctrl+X), 'Copy' (Ctrl+C), 'Delete' (Del), 'Memo Link' (highlighted), 'Create As', 'Add to Static Set...', 'Query', 'Visualize', 'Document Properties...' (Ctrl+Shift+P), 'Color', 'Classification', and 'Add to Quick Access'. The 'Open Linked Memo' option is highlighted in the submenu.

Name	Codes	Referen
The wellbeing project	0	0

Accessing the memo from the file

Exporting Your Project (Windows)

Since there is a cross-platform problem, **save and export your projects as .qdpX files** when submitting assignments so they can be opened on both Macs and Windows!



Further Learning & Practice

Qualitative Coding Practice

Read [“Men and healthy eating” dataset](#) or [“Childfree”](#)

- ❑ Come up with three themes you might want to highlight from this text; these themes should be about 1-3 words (ex: “health impacts”)
- ❑ Underline the moments in the passage that reflect these themes.
- ❑ Try to recreate this schema in NVivo!
- ❑ How do you think the code schema would differ if applying in vivo or process coding styles?

Ethical Considerations

[?] Contextual Privacy

- When we think about privacy online we want to think of it as contextual. What someone might be comfortable saying in one context might not be something they're okay saying to a researcher.

[?] Keeping People Safe

- It is risky to publicize the username, profile picture, or exact text of a social media post or profile.
- To show example posts etc, you can make up your own or heavily redact them.

What information would you be comfortable sharing?

Learning Resources

- ❓ [Handout: Installing NVivo](#)
- ❓ [Handout: NVivo](#)
- ❓ [Handout: Accessibility in Digital Content](#)
- ❓ [Handout: Copyright and Fair Use](#)
- ❓ [Handout: Data Privacy](#)
- ❓ [Handout: Data Ethics](#)

Thank you!

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- ☐ Course materials: <https://bit.ly/fa25-dominguez-insh7102-multi>
- ☐ For more information on DITI, please see: <https://bit.ly/diti-about>
- ☐ Schedule an appointment with us! <https://bit.ly/diti-meeting>
- ☐ If you have any questions, contact us at: nulab.info@gmail.com