v.2, October 2026

Q-BEx User's Manual

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Intro

Q-BEx is not just a questionnaire. It's a free, flexible online tool that:

- automatically calculates measures of language exposure and use;
- automatically generates a comprehensive report for each child;
- exists in many languages;
- can be completed by either caregivers or children (from age 12 and ideally with an adult to support them in answering questions as needed);
- generates individual reports for you in English, Dutch or French.

In this manual, you will find everything you need to get you started.

Using Q-BEx in four steps

To collect data using the Q-BEx questionnaire, follow four steps:

1. Register

2. Create & customize

3. Distribute

4. Download

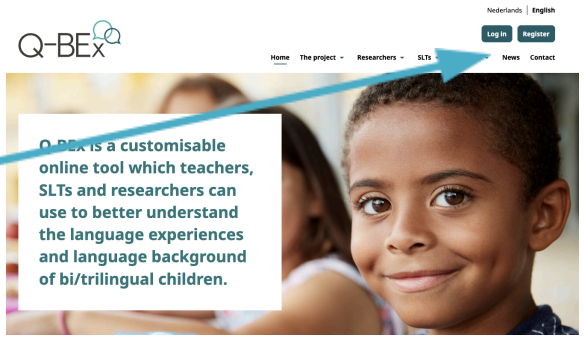
Registering gives you access to the Q-BEx online platform. This is where you create your questionnaire. After customising the questionnaire for your purpose, the platform generates a URL which is unique to your questionnaire. This is what you share with your respondents. Once they've completed the questionnaire, you use the same online platform to access the responses you've collected. In the following sections, we walk you through each of these steps in turn.

How to register

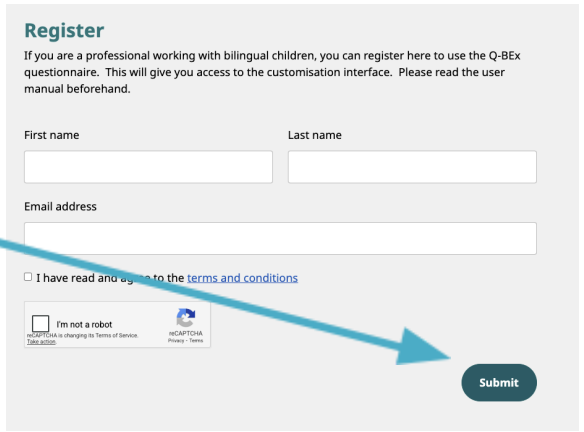
Before you start using Q-BEx, you first need to register as a user. You only need to do this once. After registering, you'll receive a username and password which you'll use to access the Q-BEx online platform.

▶️ If you want to see the registration process in action, watch this video.

Go to https://q-bex.org and click *Register.*



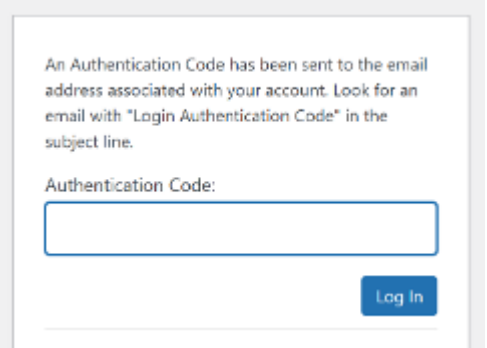
Provide the requested information, agree to the terms and conditions, and hit *Submit.*



We have an automatic filter which vets email addresses (to make sure they're from humans). If the filter is unable to vet your email address, a member of the Q-BEx team will have to approve your registration manually. This might take a couple of days.

Once approved, you'll receive an email with your username and a link to reset your password. Click on the link and create a new password.

You can now log in with your username and new password. For security reasons, a double authentication is required every time you log in. You will need access to the email account you used to register to access the authentication code.



From now on, you can access the Q-BEx online platform using the same username and password via the *Log in* button.

Tip: Only one email address can be assigned as owner of a Q-BEx questionnaire, so if you want several people to be able to download the data for a project, you should use a shared email address.

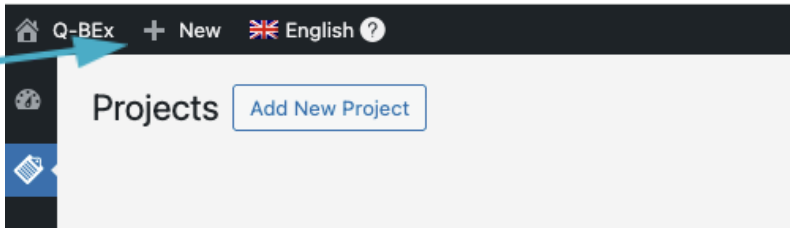
How to customize your questionnaire

After logging in, you will be able to create a new questionnaire and view any existing questionnaires you have created earlier. Note: the online platform refers to questionnaires as *Projects*.

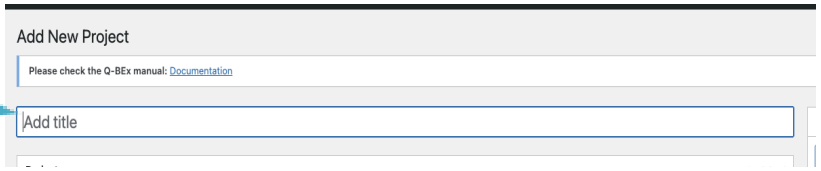
▶️ If you want to see the creation and customization process in action, watch this video.

The basics

To create a new questionnaire, either click on " + *New* " in the top left-hand corner and select *Project*, or click on *Add New Project* on the *Projects* page.



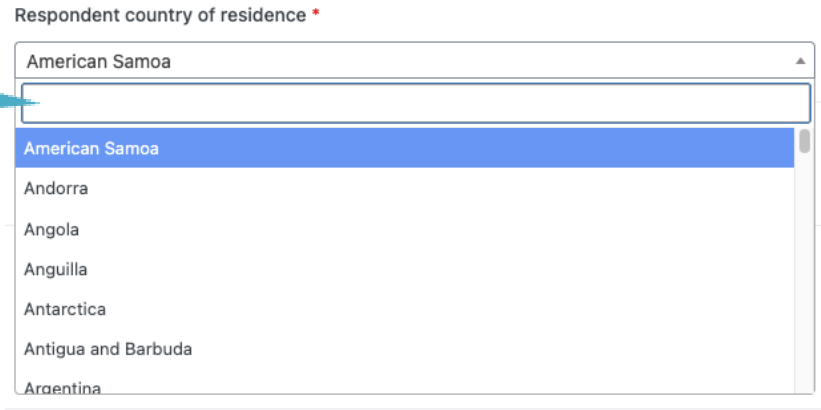
Start by giving your questionnaire a name.



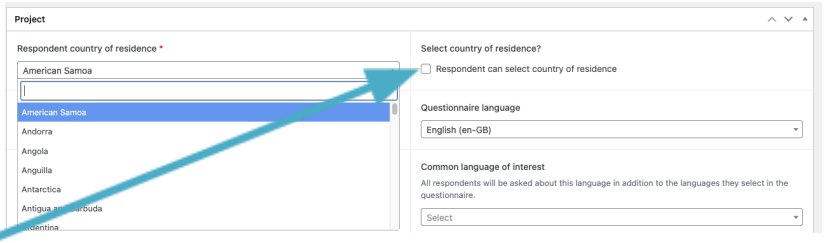
You then need to make a number of basic choices about who will be completing the questionnaire (caregiver or children), where they live, and the language they should use when completing the questionnaire. We'll walk through each of these choices one by one.

If all your respondents live in the same country, enter its name here.

Otherwise, enter the country that's likely to be the most frequent.

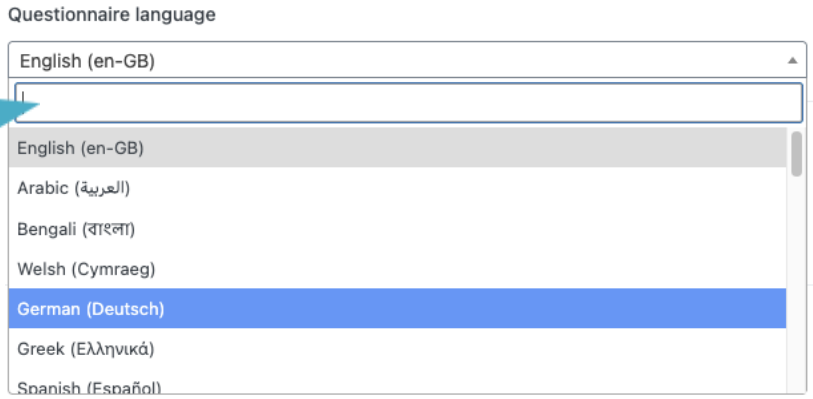


If your respondents live in different countries and you need them to be able to override the country you just specified, let them select their own country of residence by ticking this option.

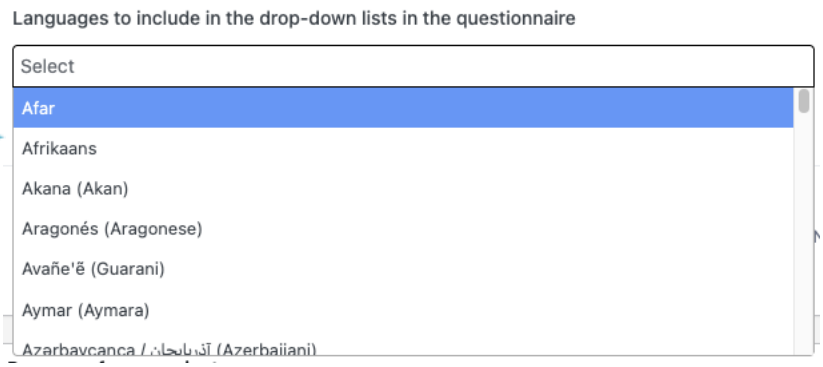


Choose which language you want your respondents to use when completing the questionnaire.

You can find the most up-to-date list of available languages on our website.



If you already know which languages your respondents are likely to know, you can specify these here.



The languages you select will then be included in the relevant drop-down menus in the questionnaire. This means that language names are identical across respondents, preventing you from having to change this afterwards (if needed for your purposes).

Note: This list does not need to be exhaustive, because even after making such a selection, respondents will still be able to choose *Other* and enter a different language.

If you want all respondents to answer questions about a particular language, specify this as a *Common language of interest*. For example, if you live in the UK and you want everyone to answer questions about the societal language, English, fill this in here. This language will subsequently always appear first in the dataset you can export.

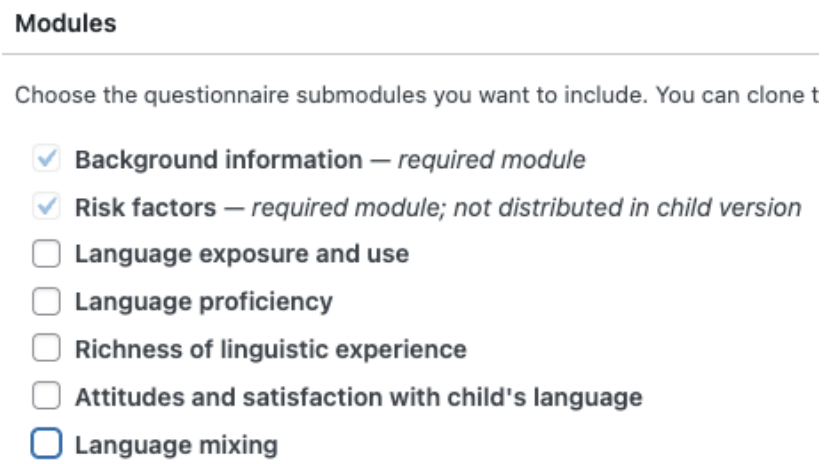
Selecting this option allows respondents to abandon the questionnaire before they've got to the end, whilst still saving their answers.

Note: It is unfortunately not (yet) possible for respondents to subsequently return to the questionnaire and pick up where they left off so it is important to remind the people who will complete the questionnaire that they must complete it in one sitting if they want to answer all the questions.

Deciding which (sub)modules to include

Now it's time to select which modules you want to include, in addition to the two obligatory ones.

Within each of the optional modules you must also select which submodule(s) to include. These are shown once you select the module in question.



See this infographic for a brief outline of the type of questions in each (sub)module and the scores derived by the tool. For more detail, you can download the full list of questions in text format as they would appear to the respondents.

The following table provides an overview of the different modules, submodules, how many questions they involve and whether they are optional.

Module	**Submodule**	**Number of questions**	**Optionality**
Background information		18	Always included
Risk factors		3	Always included for adult respondents
Language exposure and use	Either *Current estimates (detailed)* or *Current estimates (short)*	17 (detailed) 8 (short)	Compulsory if this module is selected
	Cumulative estimates	3	Optional
	Weighted estimates	5	Optional
	Age and place of first exposure	2	Compulsory if this module is selected
	Overheard speech at home	1	Optional
Language proficiency	*Speaking and listening proficiency in each language*	2	Optional
	Reading and writing proficiency in each language	2	Optional
	Proficiency compared with other bilingual children	4	Optional (unavailable for child respondents)
Richness of linguistic experience	*Activities*	8	Optional
	Caregivers' education	1	Optional

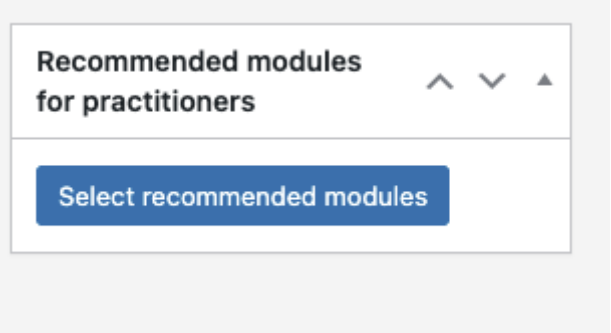
	Estimated diversity of speakers	2	Optional
Attitudes and satisfaction with child's language	*Attitudes on language mixing*	3	Optional
	Preferred language	3	Optional
	Satisfaction with child's speaking and understanding	2	Optional
	Pressure (on caregivers) and (child's) willingness to speak	2	Optional
Language mixing	*At home, between interlocutors*	2	Optional
	At home, within interlocutors	2	Optional
	At home, types of mixing	6	Optional
	Outside the home, between interlocutors	2	Optional
	Outside the home, within interlocutors	2	Optional
	Outside the home, types of mixing	6	Optional

Please consider the following information when deciding which (sub)modules to include in your questionnaire.

- If you want to obtain a **Risk Factor score** for language impairment, you must include *Speaking and listening proficiency in each language* (submodule in the *Language proficiency* module). This score can only be obtained when the questionnaire is completed by caregivers (not the children themselves).

- The main differences between the various submodules in the ***Language exposure and use*** module are as follows:
    - *Current estimates (detailed)* asks respondents about language exposure and use by interlocutor and by context;
    - *Current estimates (short)* asks respondents about language exposure and use by context only (i.e.,home, school, community, holidays);
    - *Cumulative estimates* asks respondents about their child's language exposure and use in the past, per time period specified by the respondent based on important changes in the child's life (e.g., if a parent indicates that their 6-year-old child moved countries at age 2 and then started school at age 4, the parent will be asked about the time periods from age 0 to 2, 2 to 4 and 4 to 6 years);
    - *Weighted estimates* asks how many hours the child currently spends with a range of different speakers, and in which contexts (home, school, local, community), on typical weekdays, typical weekends and holidays. This can only be used in combination with *Current estimates (detailed),* not with *Current estimates (short).*

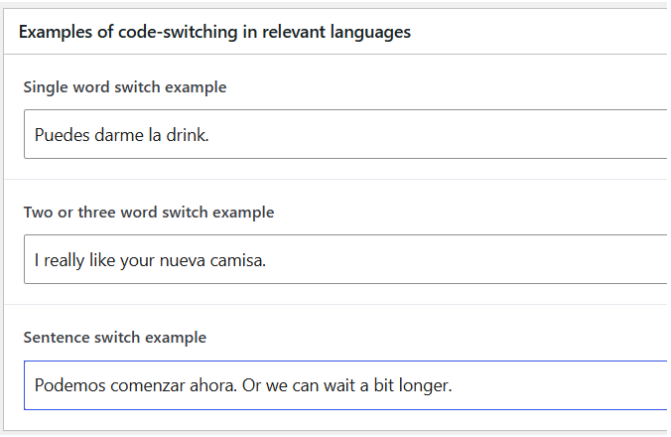
- The results of our validation study revealed which measures of multilingual children's language experience were the best predictors of their proficiency (in both the societal language and the heritage/home language) using the fewest number of questions possible. To automatically select the (sub)modules required to obtain these measures, click on the *Select recommended modules* option (on the right-hand side of the screen):



Note: You can still make changes to which (sub)modules are included after selecting this option. For example, if you want to shorten the questionnaire so that your respondents need less time to complete it, you can remove the *Cumulative estimates* submodule (which is part of the recommended modules). This will mean that you will not be able to generate what we found to be the optimal predictor of children's proficiency (i.e., cumulative exposure), but you will still have a good alternative. See De Cat et al. (2025) for more information.

- To obtain the most informative **Richness score** for each language, you must include both *Activities* and *Estimated diversity of speakers* (submodules in the *Richness of linguistic experience* module). The results of our validation study show that including *Caregivers' education* in the Richness score does not make this score a better predictor of children's language proficiency than when *Caregivers' education* is not included. For this (and other) reason(s), *Caregivers' education* is always optional. See Unsworth et al. (2025) for more information. Note that if you don't include *Estimated diversity of speakers*, you can still obtain a Richness score, but it will not be as informative.

If you want to include the *At home, types of mixing* or *Outside the home, types of mixing* submodule(s) in the ***Language Mixing*** module, you need to provide examples containing: (i) a one-word switch (e.g., *Puedes darme la* drink), (ii) a two-three-word switch (e.g., I really like your *nueva camisa*), and (iii) a sentence switch (e.g., *Podemos comenzar ahora*. Or we can wait a bit longer). These examples will then appear as illustrations in relevant questions.



Note$_1$: We highly recommend using single- rather than multi-clause examples of mixing.

Note$_2$: The examples you provide will be used to illustrate mixing at home and outside the home, so make sure that you provide examples which could plausibly be heard in both contexts.

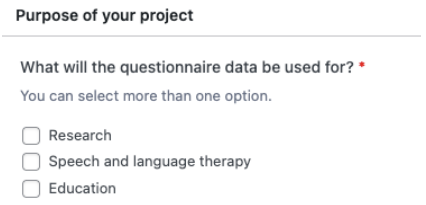
Note$_3$: We strongly encourage the use of examples from spontaneous speech corpora of relevant communities if available.

Keeping track of who's using Q-BEx and why

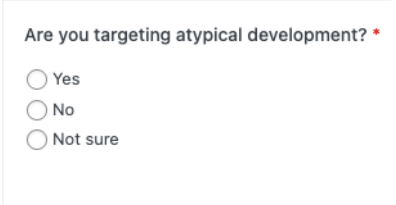
The last thing you need to do before you can publish your questionnaire and share it is to tell us a bit about yourself. This information is anonymous and helps us monitor who's using Q-BEx and with which populations.

In the section *Purpose of your project*, tell us whether you are using Q-BEx as part of a research project and/or for SLT or educational purposes.

Note: Multiple options are possible.



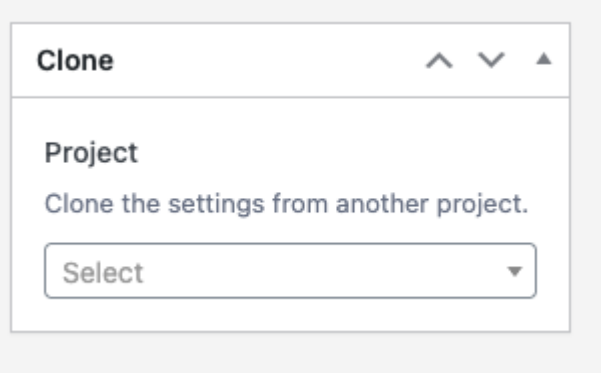
Tell us whether your questionnaire will be used to collect information about children with atypical development.



How to copy a questionnaire

When creating your questionnaire, you can select one language only. If you want to offer the same questionnaire in a different language, you need to create a new *project* containing the same questions but with a different *Questionnaire language*.

All you need to do is select the *Clone* option on the right-hand side of your screen (once you have at least one available *Project*) and then all the options you selected in the first questionnaire will be copied to a new one. Change the *Questionnaire language*, and save this new questionnaire with a different name (e.g., Questionnaire_Spanish). Each questionnaire will have its own URL (see next section).



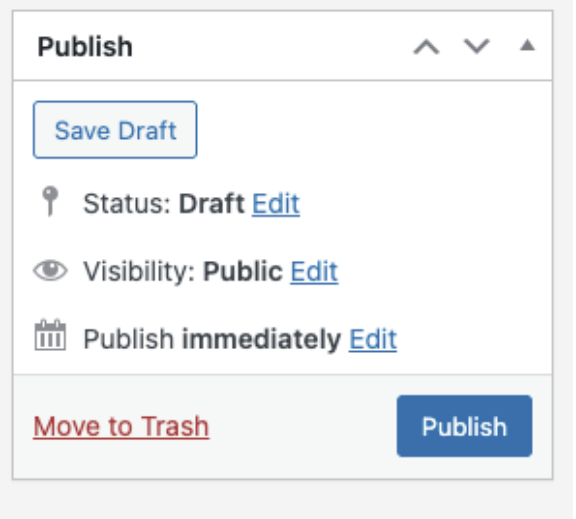
How to distribute the questionnaire

The next step is to publish and share your questionnaire with your respondents.

▶️ If you want to see how do this in video format, click here.

Once you're happy with your questionnaire, hit *Publish* in the top-right corner.

Note: Once you publish a project, you can't make any changes. Unfortunately, it is also not possible to preview a questionnaire before publishing it. If you need to change something in an already-published questionnaire, the easiest way to do this is to clone it (see previous section) and then save under a new name.

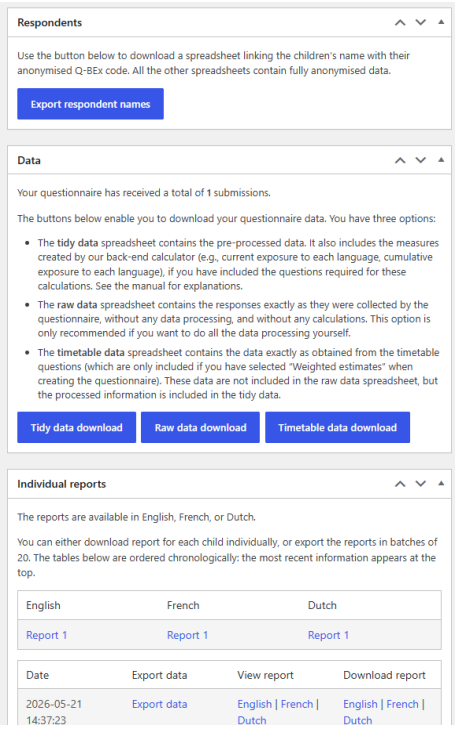


As soon as you publish your questionnaire, additional sections will appear on your project page. The section *Questionnaire* contains the URL which is unique to your questionnaire. Copy and share this with your respondents. Multiple respondents can use the same URL.

Tip: Use a QR code generator or shorten the URL to make it easier to share.

Once respondents complete the questionnaire, their data will appear in the sections *Respondents, Data,* and *Individual reports*.

In the next chapter, we will elaborate further on the different spreadsheets and reports that can be downloaded.



!!! IMPORTANT !!!

Each project expires two years after its publication. At this point, all data belonging to that project are deleted from the server, after which they cannot be recovered. Please make sure to download and store your data before the expiry date of the project. The online platform automatically generates several email reminders before this date.

How to access the responses

You can access your respondents' data in two formats: as reports for individual children and/or as a spreadsheet containing all the data from a project. You can download these from the online platform. For most professionals the individual reports will likely be sufficient.

Individual child reports

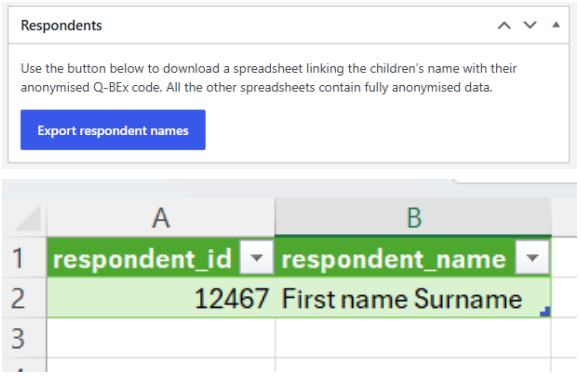
The online platform can automatically generate a pdf document for each child. You can download these separately, or in batches of up to 20 reports.

The reports contain the child's name, information about their household, a summary of the child's experience and proficiency in each language, as well as information about risk factors. The exact content depends on the modules and submodules you selected when customising your questionnaire. At the end of the report, we provide research-informed guidance for interpretation.

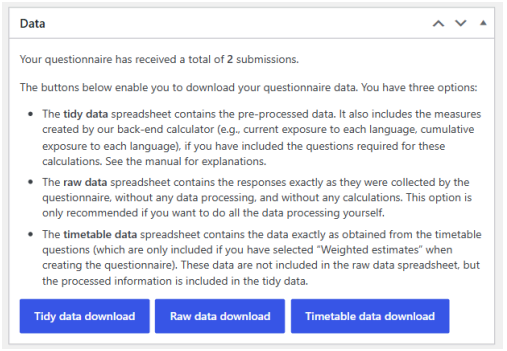
Example reports are available on our website.

Spreadsheets

The data spreadsheets are automatically anonymised: children are identified by a pseudonym *(Respondent ID)*. If you need to recover children's names, use the *Export respondent names* button to download a spreadsheet linking the names with the corresponding Respondent ID.



There are three types of data spreadsheets that can be downloaded from the section *Data*:



- The **tidy data** spreadsheet contains the pre-processed data. It also includes the measures created by what we call our "back-end calculator", that is, measures which the Q-BEx online platform generates for you using the answers provided by your respondents. These include a concern score for the risk of language impairment, cumulative exposure to each language, and richness scores for each language.
- The **raw data** spreadsheet contains the responses exactly as they were collected by the questionnaire, without any data processing, and without any calculations. This option is only recommended if you want to do all the data processing yourself.
- The **timetable data** spreadsheet contains the data exactly as obtained from the timetable questions (which are only included if you have selected "Weighted estimates" when creating the questionnaire). They are used to derive weighted estimates of current exposure in the tidy data spreadsheet but are not included there.

How to interpret the data

The data spreadsheets contain a very large number of columns, but many of these columns will not be required when interpreting the data (except perhaps for specific research projects). There will also be various empty columns, corresponding to the modules and submodules you did not select.

To help you decide which columns to select for analysis, please see Tidy_data_explanations.xlsx. Here you will find a list of variable names, whether the variable is part of the raw data or whether it is calculated by the "back-end calculator" and which (sub)modules the variable belongs to. If you want to wrangle the data yourself, please see Raw_data_explanations.xlsx. Both these files include a Read_me sheet explaining what information is provided in more detail.

This back-end calculator example file specifies the formulae used by the calculation functions. Based on an invented example of a multilingual child, this spreadsheet explains how we obtain calculations for:

- weighted current exposure and use,
- unweighted current exposure and use across four contexts,
- cumulative exposure and use,
- the richness estimates for each language
- the concern score (indicating the child's risk of language impairment)

For researchers using R, we provide R scripts on the Open Science Framework. Please see https://osf.io/cgkn5/overview

Want to know more?

Please find a list of answers to Frequently Asked Questions on our website.

Feedback?

This is a revamped version of the Q-BEx user manual. Your comments and suggestions are welcome. Please send them to qbex@leeds.ac.uk.