Quantifying bilingual experience (Q-BEx) questionnaire

Manual

How to register as a user

1. Go to https://q-bex.org
2. Click on the button *Register* found in the upper right corner of the Home page
3. Provide your first name, last name, email address (academic or professional), and agree to terms and conditions.
4. Click *Submit*.
5. You will see the message "Thank you. You will receive an email when your registration has been approved."
6. Once a member of the Q-BEx team approves your registration, you will receive an email with your username and a link to reset your password. Click on that link.
7. You will be taken to a website with a suggested password. Delete this password and set up a new one. Click *Reset password*.
8. You will see the message "Your password has been reset. Log in."
9. Click on *Log in*. Enter your username (which has been emailed to you) and your new password. Click *Remember me* (if you wish to) and then *Log in*.
10. You will be taken to the platform where you can create projects. Each project will contain a link to the questionnaire which you can send to your respondents. In the next section, we explain how to create a project.

How to create a project

1. Once you are registered and logged into the platform, click on *Projects* (upper left corner of the screen)
2. Under *Projects*, click *Add New* and name your study in the box entitled *Add title*. You can also create a new project by clicking on *Add New* found just under *All Projects* in the upper left corner of the screen.
3. In the section *Project* (just under the study title), the following parameters have to be set by the researcher/practitioner:

- *Respondent country of residence*: the country you choose will automatically appear in relevant questions throughout the questionnaire. You can also tick *Respondent can select country of residence*, in which case each respondent will be asked about where the child lives and their answer will overwrite whatever you specified as the respondent's country of residence (selecting this option is convenient when in the same survey you have respondents living in different countries).
- *Respondent type*: select whether you will be distributing the questionnaire to caregivers (about their children) or to children (about themselves).
- *Questionnaire language*: select the language in which you want the questionnaire to be distributed.
- *Languages of interest*: list all the languages that you expect your participants to speak/understand (these will appear as drop-down menu options in the relevant question). Note that in the actual questionnaire, the respondents will also be able to choose the option *other* and specify a language that you have not included.

4. In the section *Researcher information*, you must provide details about your profession/discipline and about whether your study will include responses about children with atypical development. This information will help us keep track of the use of the Q-BEx questionnaire and will inform future development.
5. In the section *Examples*, enter examples of language mixing (code-switching) that will then appear as illustrations in the *Language mixing* module. If the module *Language mixing* is not distributed, skip this part. Make sure that the three examples are (a) a one-word switch, (b) a two-three-word switch, and (c) a sentence switch. For a one-word switch and a two-three-word switch, we recommend that both switches are placed in sentences which are single clauses. In this way, both switches will be intra-clausal switches.
6. In the section *Modules*, select those modules **and** sub-modules that you want to distribute. *Background information* (18 questions) and *Risk factors* (3 questions) are always obligatory. If you select *Language exposure and use*, two of its submodules are automatically included: *Current estimates* and *Age and place of first exposure*. Note that the *Risk factor* module and the sub-module about language proficiency with the reference group are not distributed in the child version of the questionnaire even if they are selected.

7. When you have set all the parameters, click *Publish* (upper right part of the screen). Note that once you publish a project, you can't make any updates. In case you require a different questionnaire, you'll need to create a new project.
8. **Each project expires a year after its publication, and all its data is deleted from the server. Please make sure to download and safely store your data before the expiry date of the project.**
9. After publication, in the section *Questionnaire*, you can find the questionnaire URL. This link is to be sent to your respondents.
10. Once a respondent has filled in the questionnaire, their answers will appear in the sections *Submissions*, *Calculator*, and *Respondents*. Please see the section *Accessing and interpreting data files* of this manual for instructions on how to download and interpret the data.
11. When you click on *Projects* or *All projects* (upper left corner), you will go back to the list of projects which you created. Next to each project, you will see its creation date, its deletion date, a type of respondent, and the language of distribution. **Please make sure to download and safely store your data before the expiry date of the project. Otherwise, the data will be lost.**
12. In case you have any difficulties using the questionnaire, write to us at qbex@leeds.ac.uk. Note that this email address will be monitored regularly until the end of the funded part of the project (October 2022). After this date, it will be monitored less frequently.

Accessing and interpreting the data files

The output file containing the raw data can be found on the relevant page for that project on the user platform under the section *Submissions*. You can either download the data (as a single .csv file) from all respondents by clicking *Export all* or you can download the data for each participant individually by clicking *Export* next to each submission. Note that these files contain only raw data (i.e., no derived scores). All the data accessible via the section *Submissions* are anonymised as the names of children are automatically replaced by *respondent_id* (a variable present in the raw data file). If you want to link individual data to each child, download the list of respondents' IDs and names from the section *Respondents* by clicking *Export respondent names*. In the section *Calculator*, you can click *Export calculator*

results to download a file containing first the raw data from all participants followed by calculations for each participant.

In order to interpret the data, you will require the *Output_interpretation* excel file which can be downloaded from the resources on our website. The output interpretation file contains three sheets: raw data, exposure and use calculations, and richness calculations.

The sheet *raw data*, contains variables necessary for the raw data interpretation. For the ease of interpretation, columns C and D contain the questions (the caregiver and the child version respectively), while column A contains the internal reference for each question. In column B, you can find the variable names assigned to each question in the output file. Column E contains possible responses as they will appear in the output file, while column F clarifies what each of those values stands for. Finally, column G contains some additional notes to help the interpretation. Note that throughout the *Output_interpretation* file, we use square brackets around numbers when these stand for variables. For instance, the answer(s) to question Q.72 ("Please list all the languages that the child speaks and/or understands no matter how well or how often.") will be stored in the output file as *language 1* (if only one language is specified), and *language 2* (and possibly *language 3*) if more languages are specified by the respondent. Column B of the *Output_interpretation* file only mentions these variables as *language [1]*, or *adult [1]* or *child [1]*, but they can be instantiated by several rows in the actual output file (depending on the number of languages, adults or children mentioned in the responses).

The sheet *exposure & use calculations* lists the variables that appear after the raw data in the Calculator output. While column A lists the names of these variables as in the Calculator output file, column B specifies the unit in each variable. Columns C-G indicate when you can rely on the calculation values in the output as they are conditioned by which modules and sub-modules are distributed.

The sheet *richness calculations* lists (in column A) the names of richness-related calculations as in the Calculator output file. Column B shows the unit of each variable. Columns C-F indicate when you can rely on these values as they are conditioned by the modules and sub-modules distributed.

The formulae used by the calculation functions are provided in the *Backend_calculator_example* file, which can be downloaded from the resources on our website. Based on an invented example of a bilingual child, this spreadsheet explains how we obtain current and cumulative exposure and use calculations, as well as the richness scores for each language.