

## Exercise 2: Hunting for Errors

**Time:** 25 minutes

**Goal:** Learn how to identify and understand common data issues using the PRISM Validator.

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### What You'll Learn

By the end of this exercise, you will:

- Use the PRISM Validator to check for errors
- Understand different types of validation messages (Error, Warning, Info)
- Identify common pitfalls in raw data (formatting, types, ranges)
- Discover how PRISM helps you catch issues before they ruin your analysis

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### Starting Materials

Look in the `bad_examples/` folder inside this exercise. It contains 13 files, each with at least one deliberate error or “messy” feature.

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### Your Task: The Bug Hunt

Instead of following a script, your goal is to explore these files and see what PRISM tells you about them.

#### Step 1: Loading the “Messy” Files

1. Open **PRISM Studio** (<http://localhost:5001>)
2. Go to the **Converter → Survey Data Converter**
3. Select any file from the ‘`bad_examples/`’ folder and click “**Upload**”.

#### Step 2: Investigate

For each file you load, ask yourself:

- **Does it load at all?** (Some files have fundamental formatting issues).
- **Does the Preview look right?** (Check the columns and rows).
- **What happens when you try to map columns?** (Are some columns missing or weirdly named?).
- **Are there any warnings or errors on the screen?** (Look for red or orange boxes).

#### Step 3: Specific Challenges

Can you find the files that have these specific problems?

- A file that isn’t actually tab-separated (TSV).
- A file where a participant appears twice.
- A file where someone entered a number that is “impossible” for that scale.
- A file that is completely empty.

The screenshot shows the PRISM Studio Dataset Validation interface in Light Mode. The top navigation bar includes links for Home, Projects, Validator, Converter, Tools, Specs, Docs, and Quit. The main title is "Dataset Validation" with a subtitle "Validate your psychological dataset structure and metadata".

**Current Project:** Port\_Vario  
 /Volumes/Evo/data/prism\_hub//Port\_Vario

**Buttons:** Validate Current Project, Change Project

**Section 1: Select Dataset**

Select your dataset folder  
 Choose a folder to start validation  
 Browse Folder

**Section 2: Schema Version**

stable (default)  
 Select the schema version to use for validation. "stable" is recommended.

**Section 2b: Template Library Root (Optional)**

/Volumes/Evo/data/prism\_hub/Port\_Vario/code/library  
 If your dataset uses external survey/biometrics templates, specify the library folder here.

**Section 3: Validation Mode**

Full Validation (PRISM + BIDS)  
 Recommended. Validates PRISM extensions and runs the official BIDS validator.  
 PRISM Only  
 Only validates PRISM-specific modalities (survey, biometrics, etc.) and structure.  
 BIDS Only  
 Only runs the standard BIDS validator. Skips PRISM-specific schema checks.  
 Show BIDS Warnings (can be verbose)  
 Choose how you want to validate your dataset.

**Start Validation**

Select a folder to start validation

**Validation Outcomes:**

- Privacy First**: Files are processed locally. Nothing is uploaded to external servers.
- BIDS Ready**: Ensures your dataset is compatible with standard BIDS tools and apps.
- Detailed Reports**: Comprehensive validation results with statistics and error categorization.
- Lab Contact**: Karl Koschutnig · karl.koschutnig@uni-graz.at

**Browser Compatibility**  
**Folder Upload:** Requires Chrome 21+, Firefox 50+, Safari 11+, or Edge 79+

**Expected Dataset Structure:**

```

dataset/
├── dataset_description.json
├── participants.tsv (optional)
└── sub-01/
    ├── ses-001 (optional)
    │   ├── survey/
    │   └── biometrics/
    └── anat/
        └── sub-02/
            ...
    ...

```

**Supported Modalities:**

- survey/ - Survey/Behavioral responses
- biometrics/ - Biometric assessments (VO2max, plank)
- physiological/ - Standard BIDS physio

PRISM Studio version: 2.8.0

Note: Dataset validation is performed locally. Files are never uploaded to external servers.

**Footer:**

- MRI-Lab Graz University of Graz
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- Maintained by Karl Koschutnig
- GitHub: MRI-Lab-Graz
- Built with ❤ for the research community
- Report an issue

Figure 1: Exercise 2 UI (Light Mode)

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## **Exercise 2 Challenge**

Pick one of the “broken” files. Try to identify exactly what is wrong, and if you’re feeling adventurous, open the file in a text editor (like Notepad or VS Code), fix the problem, and try uploading it again to see if it passes!

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**Next Steps:** Once you’ve mastered the art of finding bugs, let’s look at how to process clean data.

**Ready for Exercise 3?** → Go to ‘./exercise\_3\_using\_recipes/’