

Exercise 3: Using Recipes

Time: 20 minutes

Goal: Calculate total scores automatically and export analysis-ready data to SPSS

The screenshot shows the MRI-LAB GRAZ PRISM Studio software interface. At the top, there is a navigation bar with icons for Home, Projects, Validator, Converter, Tools, Specs, Docs, and Quit. Below the navigation bar, the title "Recipes & Scoring" is displayed. A tooltip provides information about what recipes are: JSON files that define how to score and process survey data automatically. It also explains how it works, mentioning automatic discovery from project-local to global official paths, processing runs on the current project's dataset, and scored outputs saved to derivatives. The main section is titled "Process & Export". It includes fields for Modality (Survey), Output Format (CSV), Recipe Filter (e.g. ads,psqi), File Output (Separate file per survey or One combined file), Sessions (All sessions checked), Language (English), Layout (Long), and Data Sharing & Anonymization options (Anonymize for Sharing checked, ID Length set to 8, Truly Random unchecked). There is also a "Run Processing" button at the bottom. At the bottom of the screen, there is a footer with the MRI-Lab Graz logo, contact information (karl.koschutnig@uni-graz.at, GitHub: MRI-Lab-Graz, Report an Issue), and a note that it is maintained by Karl Koschutnig and built with ❤️ for the research community.

Figure 1: Exercise 3 UI (Light Mode)

What You'll Learn

By the end of this exercise, you will:

- Understand the recipe system for automated scoring
- Apply recipes to calculate total scores and subscales
- Export data to SPSS (.save) with full metadata
- Generate codebooks and methods text automatically
- Open and verify the results in SPSS/Jamovi

Starting Point

You'll use the dataset you completed in Exercise 1:

- Location: `../exercise_1_raw_data/my_dataset/`
- Status: Properly structured.

Requirements:

- Your dataset must be valid.
- JSON sidecars should ideally have metadata, but the recipe can work with raw columns too.

What Are Recipes?

Recipes are JSON files that define scoring logic:

- Which items to sum/average
- How to reverse-code items (if needed)
- How to calculate subscales
- Clinical cutoffs for interpretation

Your Task

Apply the Wellbeing and Fitness recipes to your dataset to:

1. Calculate the wellbeing total score (sum of 5 items)
2. Calculate the fitness composite if you converted the biometrics data
3. Export results to SPSS format

Step-by-Step Instructions

Step 1: Verify Recipe File Exists

The recipes are located at `demo/workshop/recipes/surveys/wellbeing.json` and `demo/workshop/recipes/biometrics/fitness.json`.

Step 2: Open Recipes & Scoring Tool

1. Open **PRISM Studio** (<http://localhost:5001>)
 2. Click “**Recipes & Scoring**” in the navigation menu
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Step 3: Select Your Dataset

Dataset Folder: 1. Click “Browse” button next to “PRISM Dataset Folder”
2. Navigate to: `demo/workshop/exercise_1_raw_data/my_dataset/` 3. Select this folder

Step 4: Configure Recipe Settings

For Wellbeing Survey:

- **Modality:** Select Survey
- **Recipe:** Select `wellbeing`
- **Output Format:** Select SPSS (`.save`) or Excel (`.xlsx`)
- Click “Run Scoring & Export”

For Fitness Data (Bonus):

- **Modality:** Select Biometrics
 - **Recipe:** Select `fitness`
 - Click “Run Scoring & Export”
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Step 5: Verify Results

Check your output folder (usually the same as the dataset or a `derivatives/` subfolder): - You should see `wellbeing_scores.save` (or `.xlsx`) - Open it and check the new columns (e.g., `wellbeing_total`) - Notice that the variable labels and value labels are preserved!

What Just Happened?

You went from raw data to analysis-ready results in minutes!

Instead of manual summing in Excel, you used a **machine-readable recipe** that: - Summarized your data automatically - Preserved all your hard-earned metadata - Created a format ready for statistical software - Documented exactly how the scores were calculated

Next Steps: Now that you’ve processed your data, let’s learn how to create your own survey templates from scratch!

Ready for Exercise 4? → Go to `../exercise_4_templates/`