

**UNIVERSITY
OF TWENTE.**

TIIMSights

Analytics for your TIIM

USER MANUAL

**THE
BMS
LAB**

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1. Introduction

Welcome to the TIIMSights User Manual. This manual provides step-by-step instructions on how to use TIIMSights to upload, preprocess, explore, and download data collected through one or multiple TIIM interventions.

TIIMSights is a web-based tool designed for laptop or desktop browsers and is not supported on mobile devices.

Note: Although the steps in this manual are presented in a logical sequence, TIIMSights allows flexible navigation. After uploading your data, you may freely move between tabs based on your workflow.

After working through this manual, you will be able to:

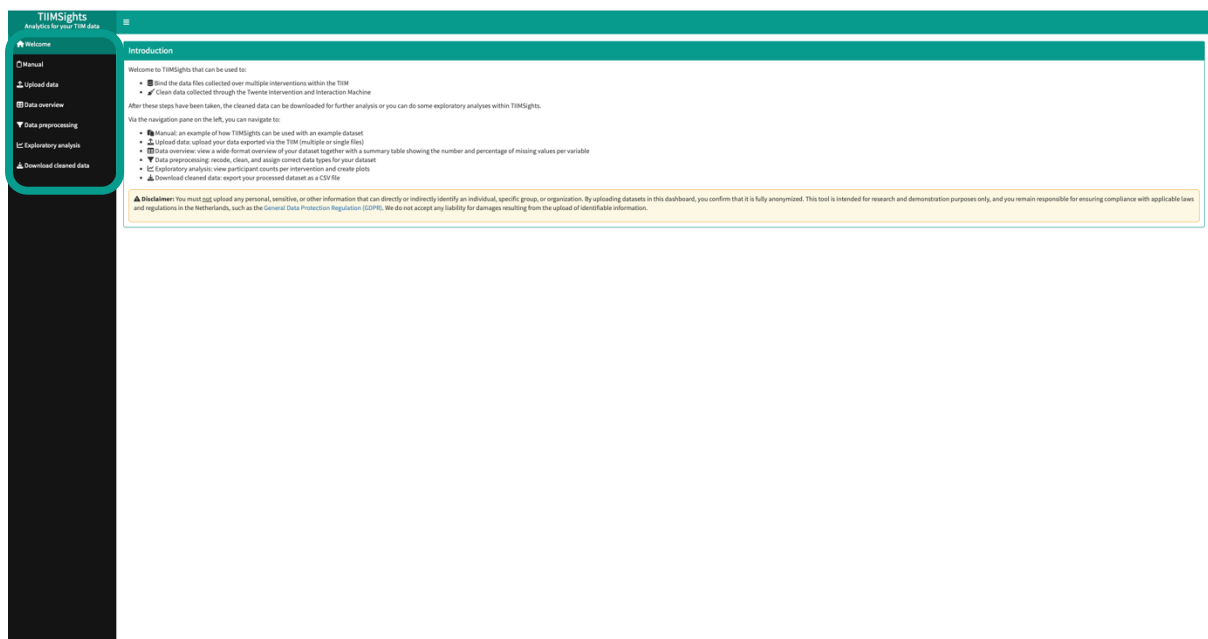
1. Upload a dataset into TIIMSights
2. Recode and clean variables in the dataset
3. Perform exploratory data analysis using visualizations
4. Download a cleaned version of the dataset reflecting all preprocessing steps

Reminder: A dataset consists of the responses and related information provided by participants while completing TIIM modules. Data can be downloaded from the TIIM Dashboard by selecting the appropriate metrics (explained in a separate tutorial).

2. Accessing the TIIMSights Interface

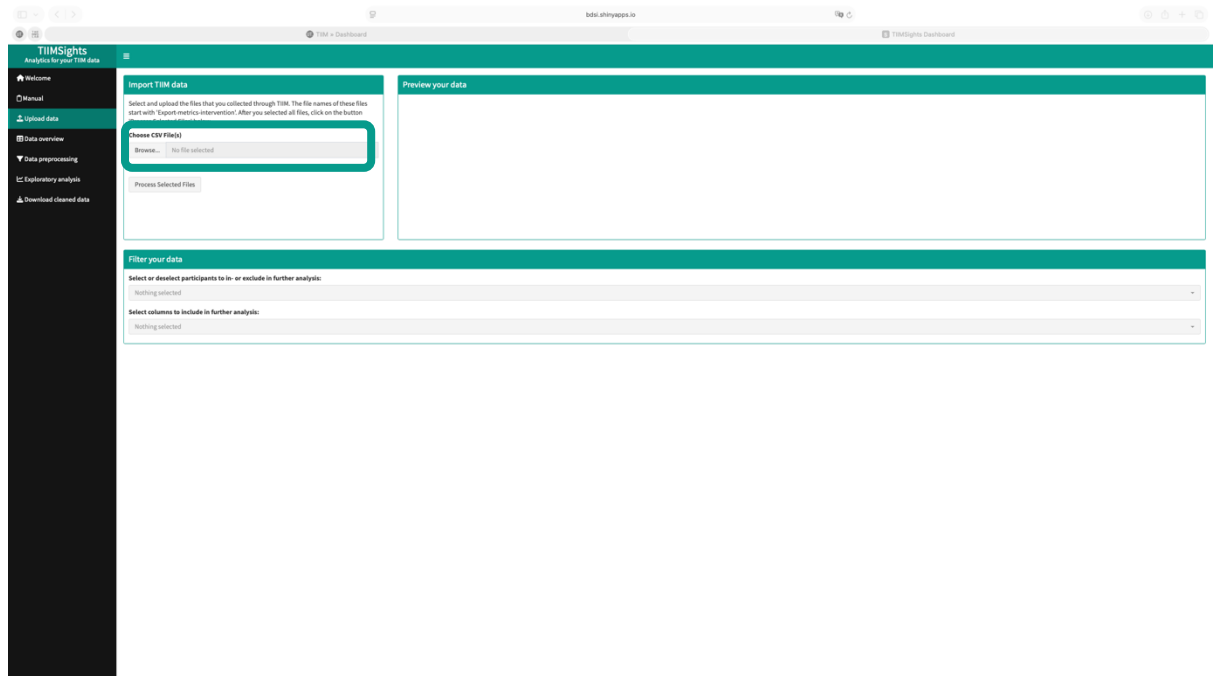
Open TIIMSights in a supported desktop or laptop browser. Upon loading, you will see several tabs guiding you through the data workflow:

- Upload Data
- Data Overview
- Data Preprocessing
- Exploratory Analysis
- Download Cleaned Data

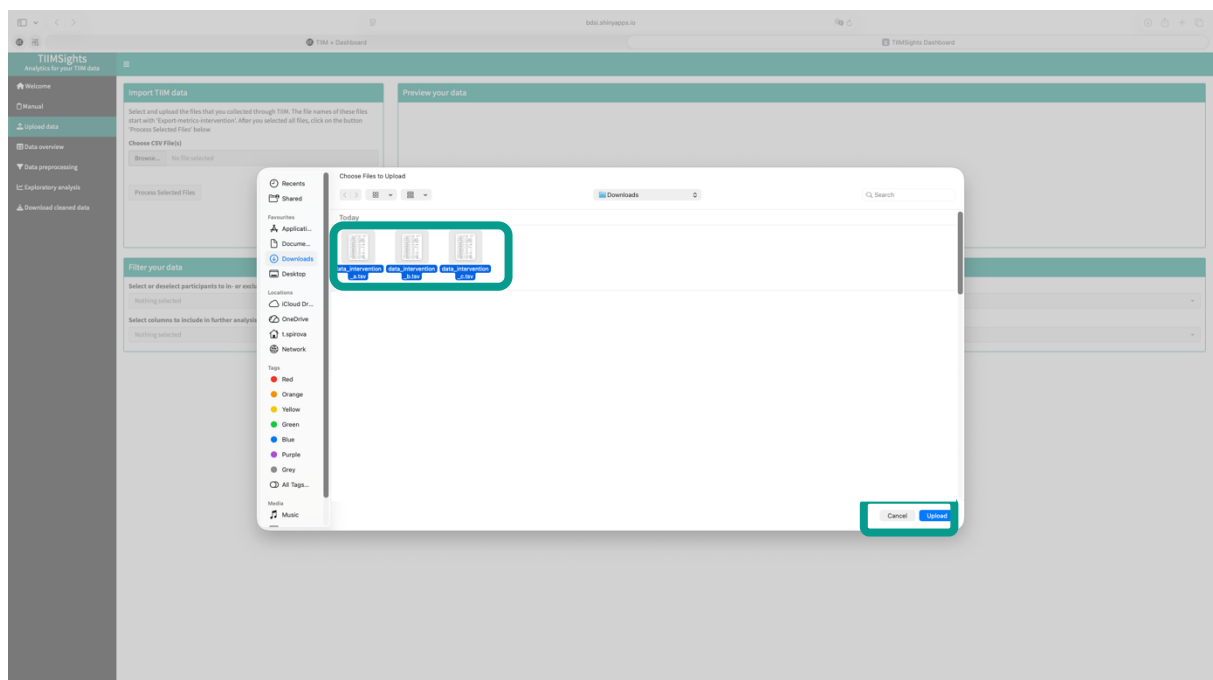


3. Uploading Data

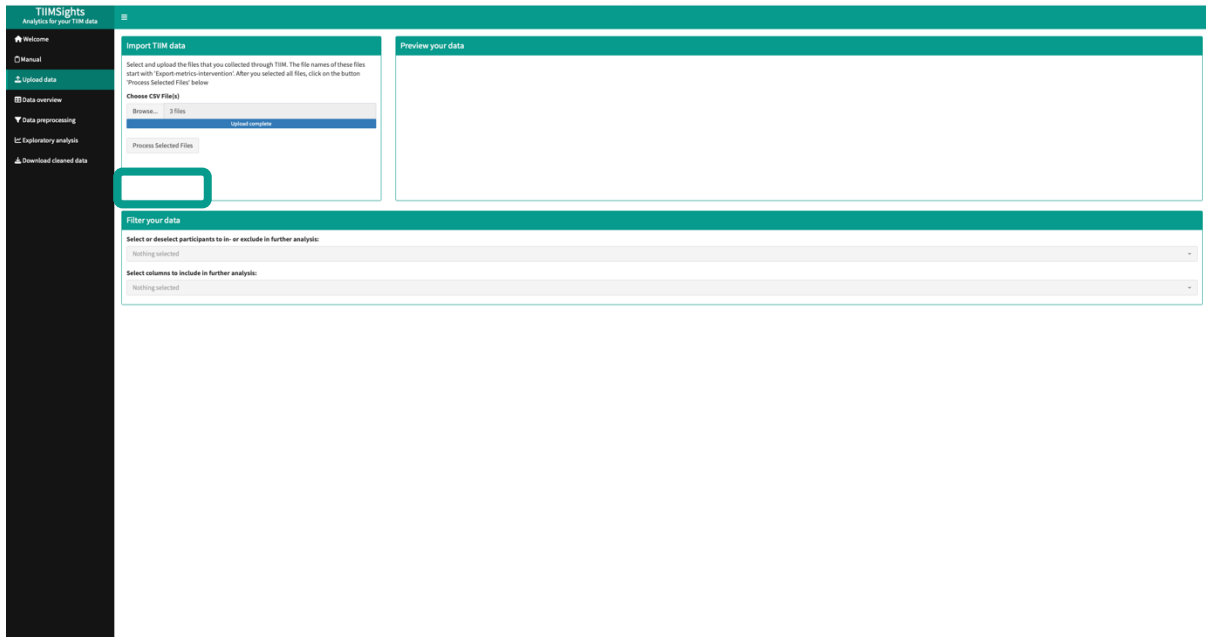
1. Navigate to the Upload Data page.
2. Click Browse and locate your dataset on your computer.



3. Select the file(s) and click Open.
 - o You may upload data from one or multiple interventions at this stage.



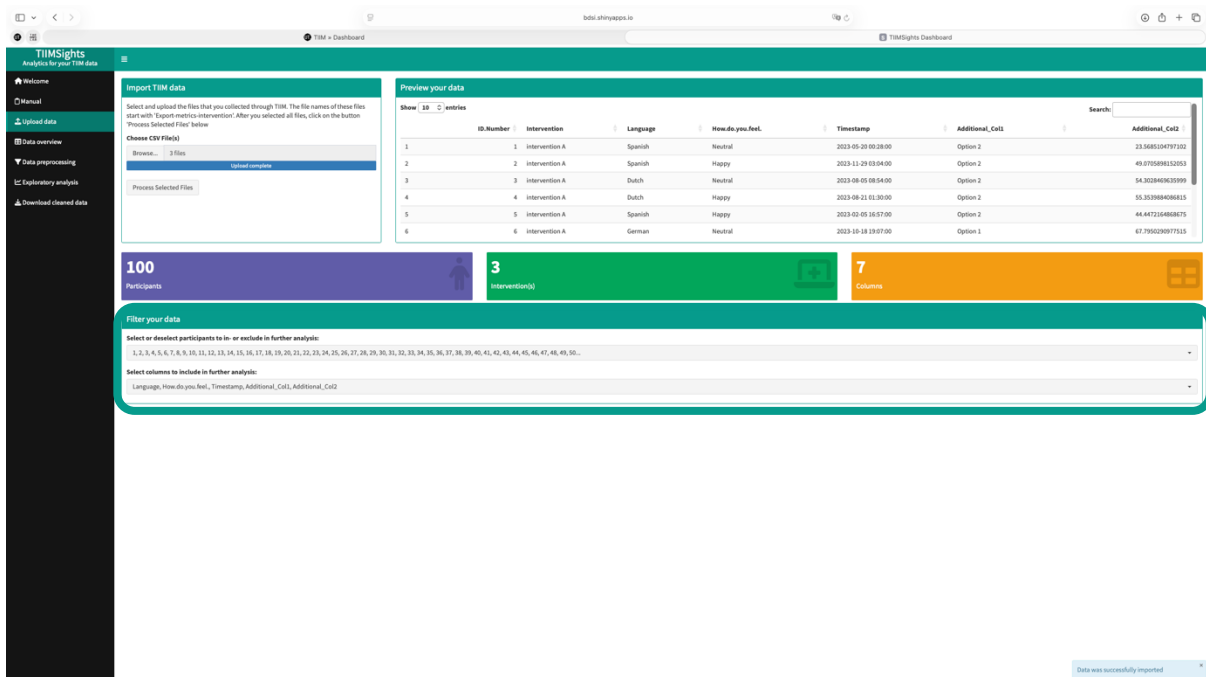
4. Once the upload is successful, click Process Selected Files.



3.1 Data Preview and Filtering

After processing, a preview of your dataset is displayed.

- Use the data filter to deselect:
 - Specific participants (e.g., Participant 2 or 9)
 - Specific variables or columns (e.g., a column named language)
- The preview updates automatically to reflect your selections.



4.Data Overview

The Data Overview page provides a summary of your dataset, including:

- An overview of variables
- Indicators showing how the data has been modified
- Information about missing values

This page is useful for verifying changes made during preprocessing.

The screenshot shows the TIMSights interface with a sidebar on the left containing navigation options: Welcome, Manual, Upload data, Data overview (selected), Data preprocessing, Exploratory analysis, and Download cleaned data. The main content area is divided into two sections: 'Data overview' and 'Missing values'. The 'Data overview' section displays a table with 9 rows and 8 columns: ID.Number, Intervention, Language, How do you feel., Timestamp, Additional_Cat1, and Additional_Cat2. The 'Missing values' section shows a summary table with 3 rows and 2 columns: variable name, Number_of_missing, and PercentageMissing.

ID.Number	Intervention	Language	How do you feel.	Timestamp	Additional_Cat1	Additional_Cat2
1	Intervention A	Spanish	neutral	2023-05-20 00:28:00	Option 2	23.5685104797102
2	Intervention A	Spanish	happy	2023-11-29 03:04:00	Option 2	49.2705991121053
3	Intervention A	Dutch	neutral	2023-08-05 08:54:00	Option 2	54.3028406303999
4	Intervention A	Dutch	happy	2023-08-21 01:30:00	Option 2	55.3539884068815
5	Intervention A	Spanish	happy	2023-02-05 16:57:00	Option 2	44.4472164688675
6	Intervention A	German	neutral	2023-10-18 19:07:00	Option 1	67.7950290977115
7	Intervention A	French	happy	2023-08-03 12:09:00	Option 1	52.8642441362382
8	Intervention A	English	unhappy	2023-09-23 14:09:00	Option 3	51.2615181685889
9	Intervention A	Dutch	unhappy	2023-05-17 12:08:00	Option 1	62.7226477946852

	Number_of_missing	PercentageMissing
ID.Number	0	0
Intervention	0	0
Language	0	0

5.Data Preprocessing

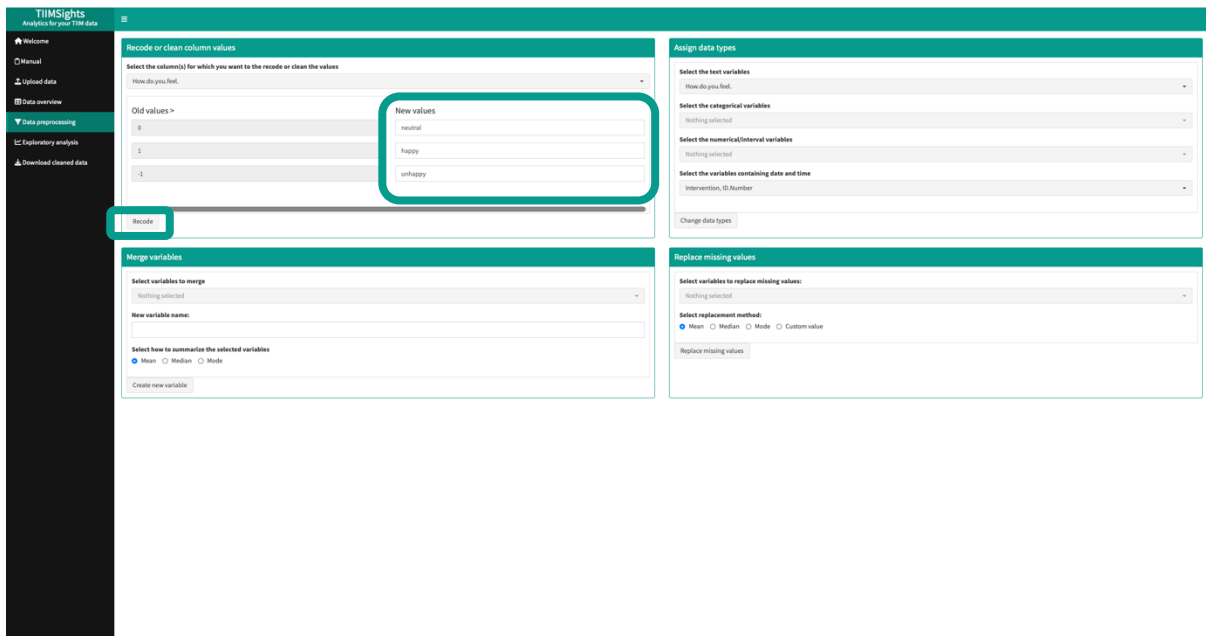
The Data Preprocessing page allows you to clean and transform your data.

5.1 Recoding Variables

1. Select one or more columns to modify.
2. Enter the new value to replace the old value.
3. Click Recode.

A notification will appear in the bottom-left corner confirming that the selected column(s) were updated successfully.

Tip: Multiple columns can be recoded simultaneously.

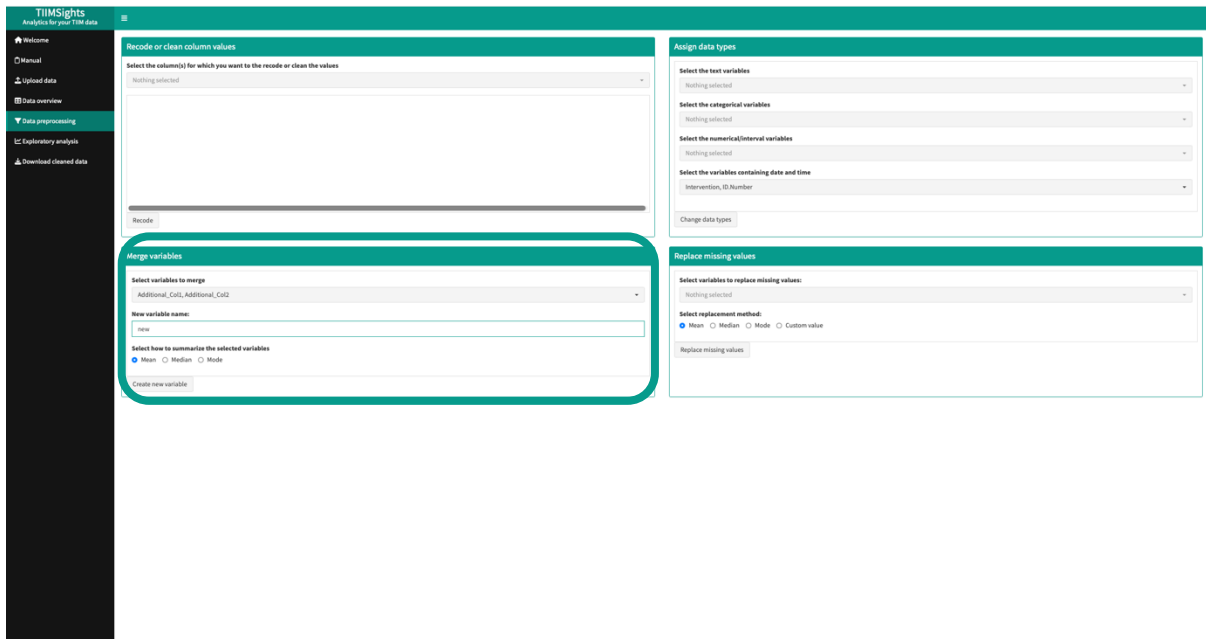


If needed, values can be completely removed from a column using the delete option.

5.2 Merging Variables

In the Merge Variables section, you can:

1. Select multiple variables
2. Merge them into a new variable
3. Assign a new name
4. Summarize the merged variable using:
 - o Mean
 - o Median
 - o Mode



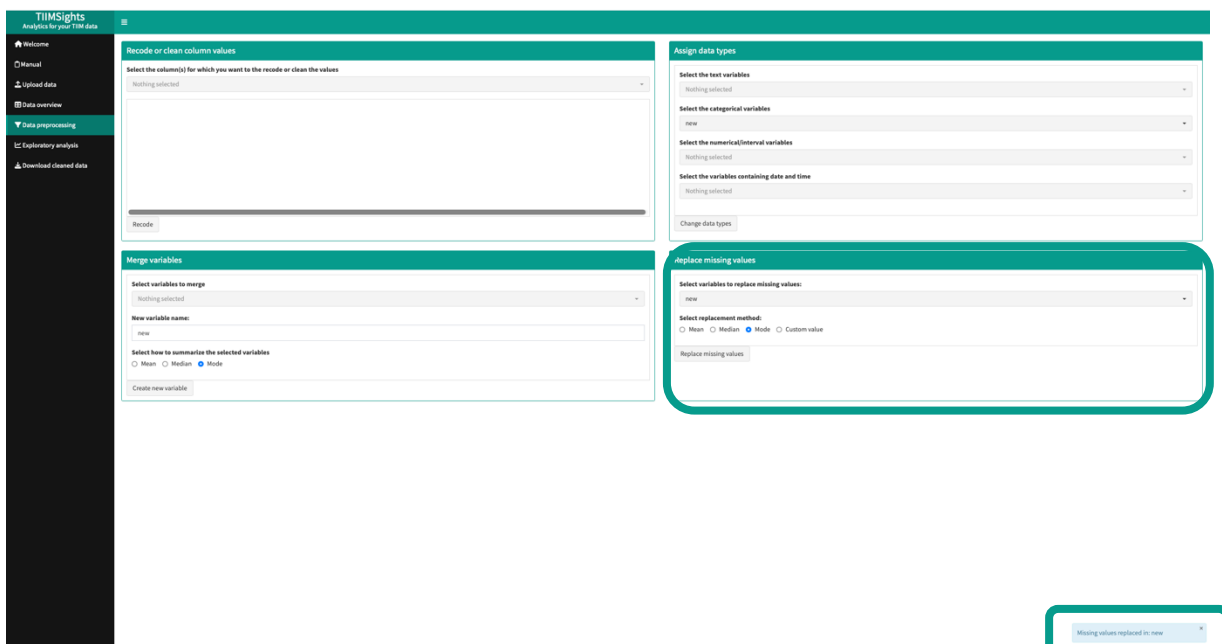
5.3 Replacing Missing Values

In the Replace Missing Values section, missing data can be replaced using:

- Mean
- Median
- Mode
- A custom value

After replacement, a confirmation notification will appear.

Important: All preprocessing changes are immediately reflected in the Data Overview tab. It is recommended to revisit that page to verify your updates.

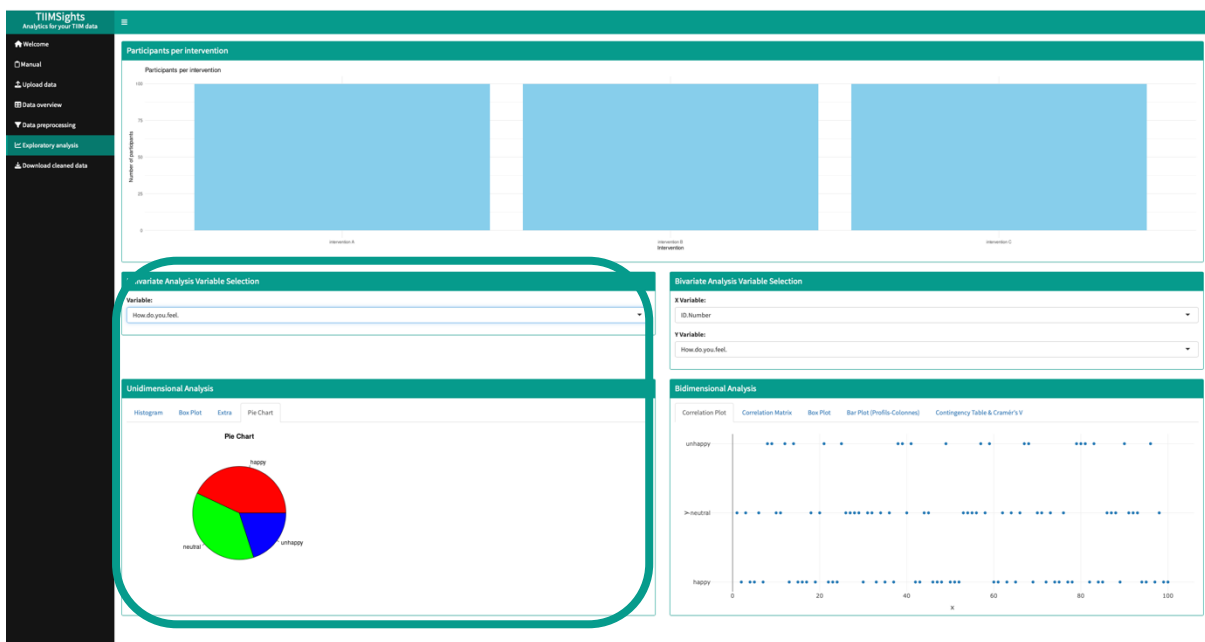


6. Exploratory Analysis

The Exploratory Analysis page helps you gain insights into your data using visualizations. TIIMSights supports two types of analysis:

6.1 Univariate Analysis

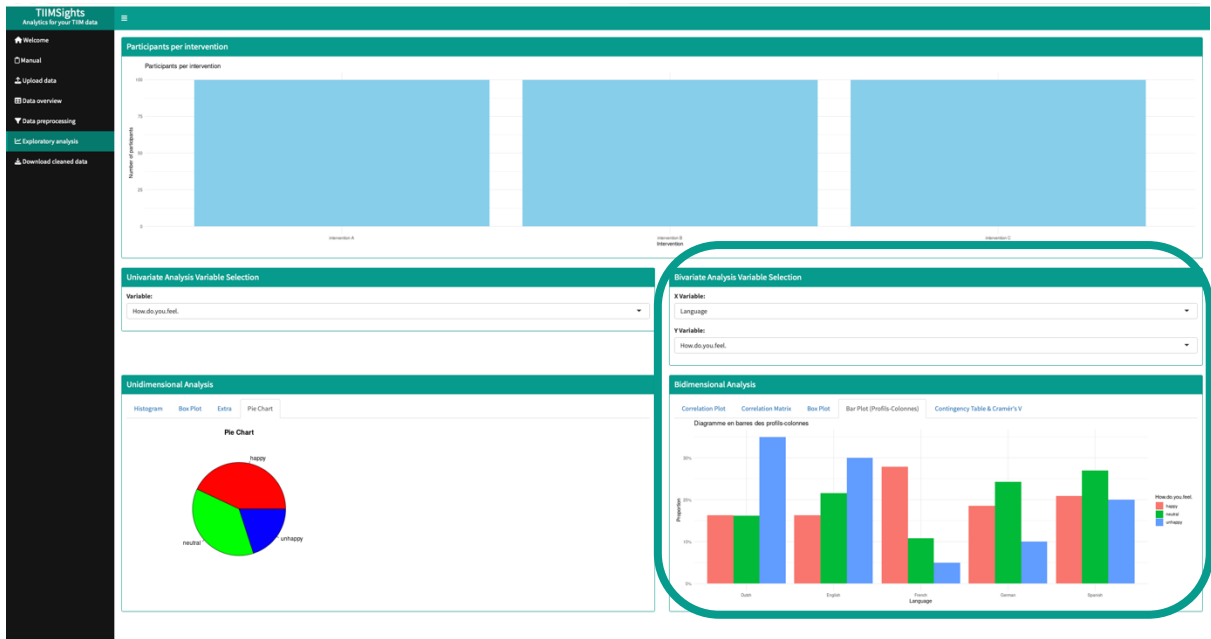
- Focuses on a single variable
- Examples include distributions or category frequencies
- Available visualization types depend on whether the variable is numerical or categorical



6.2 Bivariate Analysis

- Examines the relationship between two variables:
 - Independent variable (X)
 - Dependent variable (Y)
- Available visualizations depend on the selected variable types

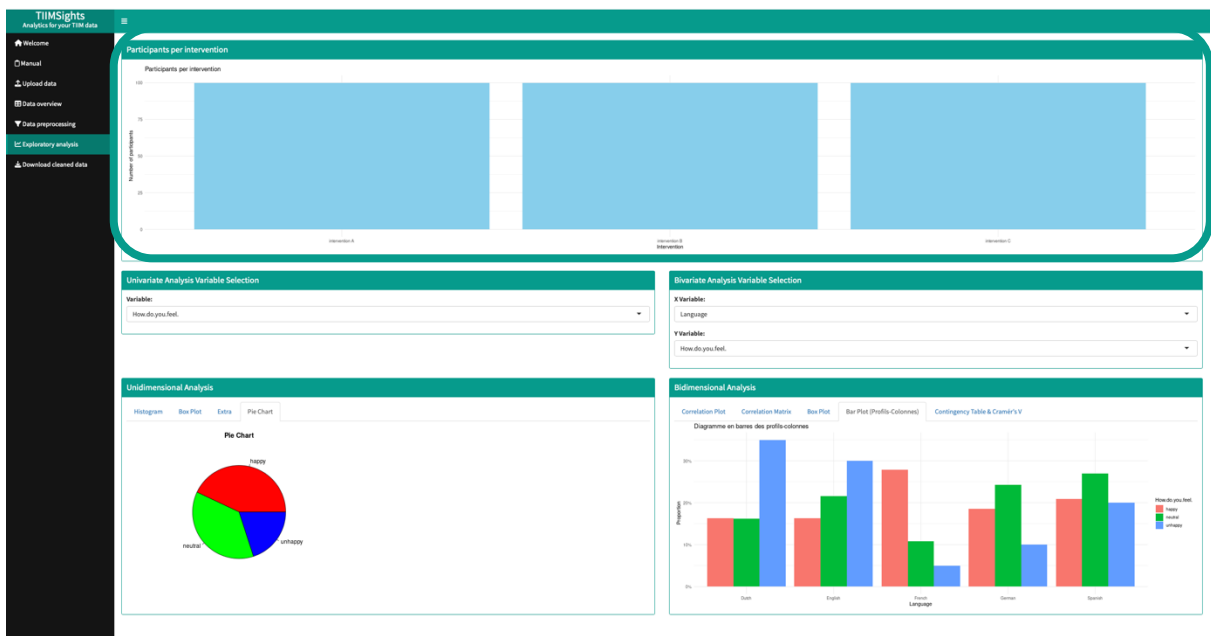
If suitable visualizations are unavailable, you may need to adjust variable data types by returning to Assign Data Types in the Data Preprocessing tab.



6.3 Multiple Interventions Overview

When multiple intervention datasets are uploaded, a fixed visualization appears at the top of the page showing the number of participants per intervention.

- This visualization is automatic and cannot be customized
- All visualizations below it can be fully adjusted



7. Downloading Cleaned Data

To download your processed dataset:

1. Navigate to Download Cleaned Data
2. Click Download CSV

The exported file will include all data cleaning and preprocessing steps performed in TIIMSights.

