

Missing Values in Survey Data

Standalone verified Python analysis

Method: Missing Values in Survey Data

Method type: data_quality_analysis

Design: Observed missingness inventory at cell, row, and variable levels, with no artificial missing values introduced.

Variables: school, sex, age, address, famsize, Pstatus, Medu, Fedu, Mjob, Fjob, reason, guardian, traveltime, studytime, failures, schoolsup, famsup, paid, activities, nursery, higher, internet, romantic, famrel, freetime, goout, Dalc, Walc, health, absences, G1, G2, G3

Inference scope: No missingness test is required because the supplied dataset contains no missing cells; MCAR testing and imputation are therefore not applicable.

Formula: $\text{missing_pct_j} = 100 * m_j / n$; $\text{complete_case_i} = I(\text{row_missing_i} = 0)$.

Source rows: 649

Calculated metrics:

total_missing_cells: 0

columns_with_missing: 0

rows_with_missing: 0

complete_cases: 649

complete_case_percent: 100.0

imputation_required: False

Independent reference values:

total_missing_cells: 0

columns_with_missing: 0

rows_with_missing: 0

complete_cases: 649

complete_case_percent: 100.0

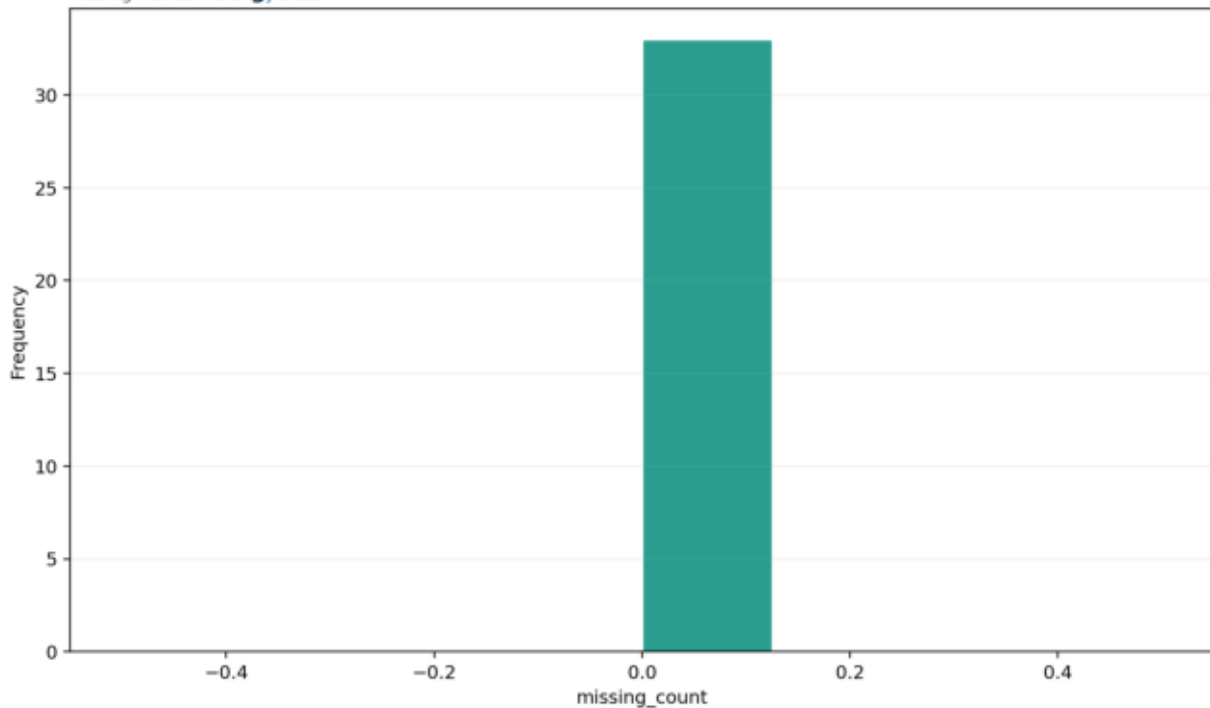
imputation_required: False

Interpretation:

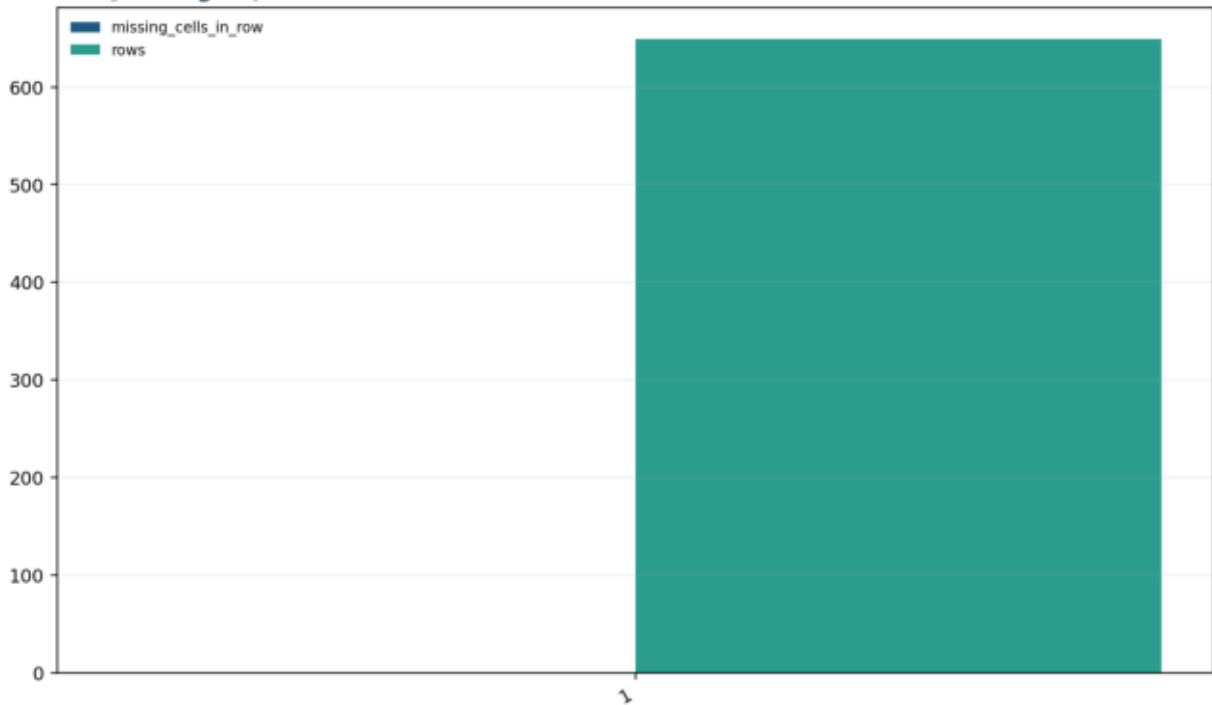
The supplied dataset has no missing cells, so imputation and MCAR inference are not applicable.

The zero result is retained rather than manufacturing missingness.

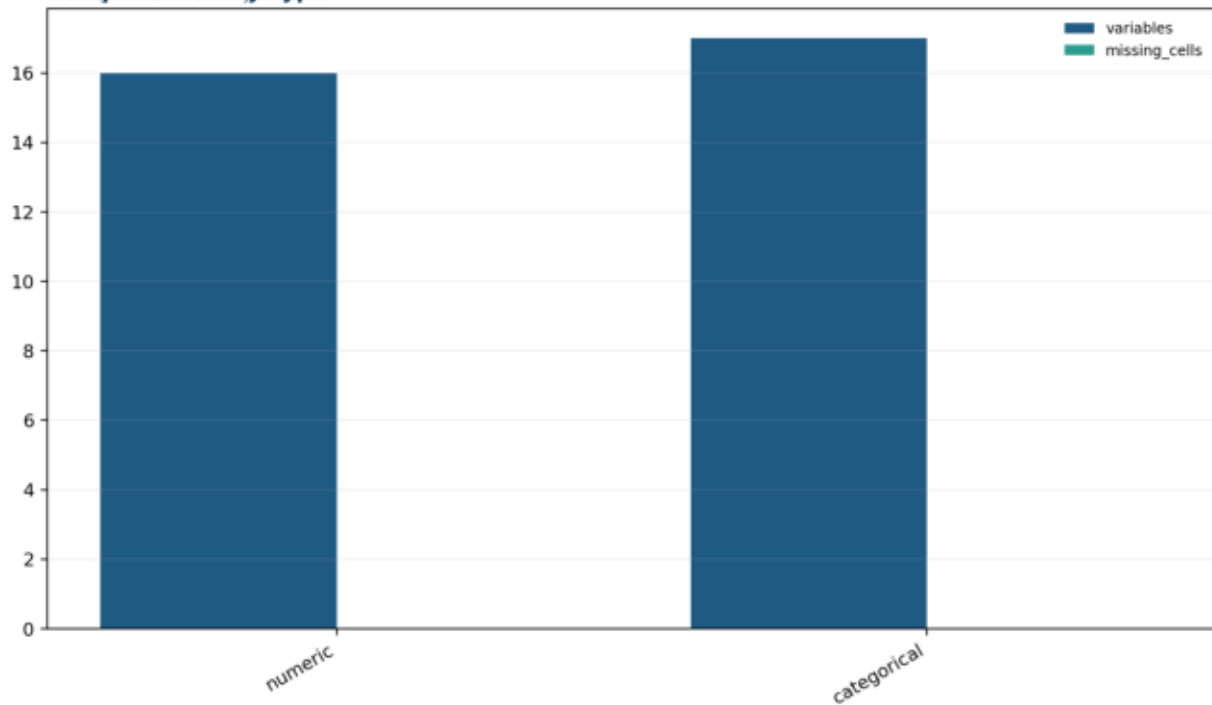
Column Missingness



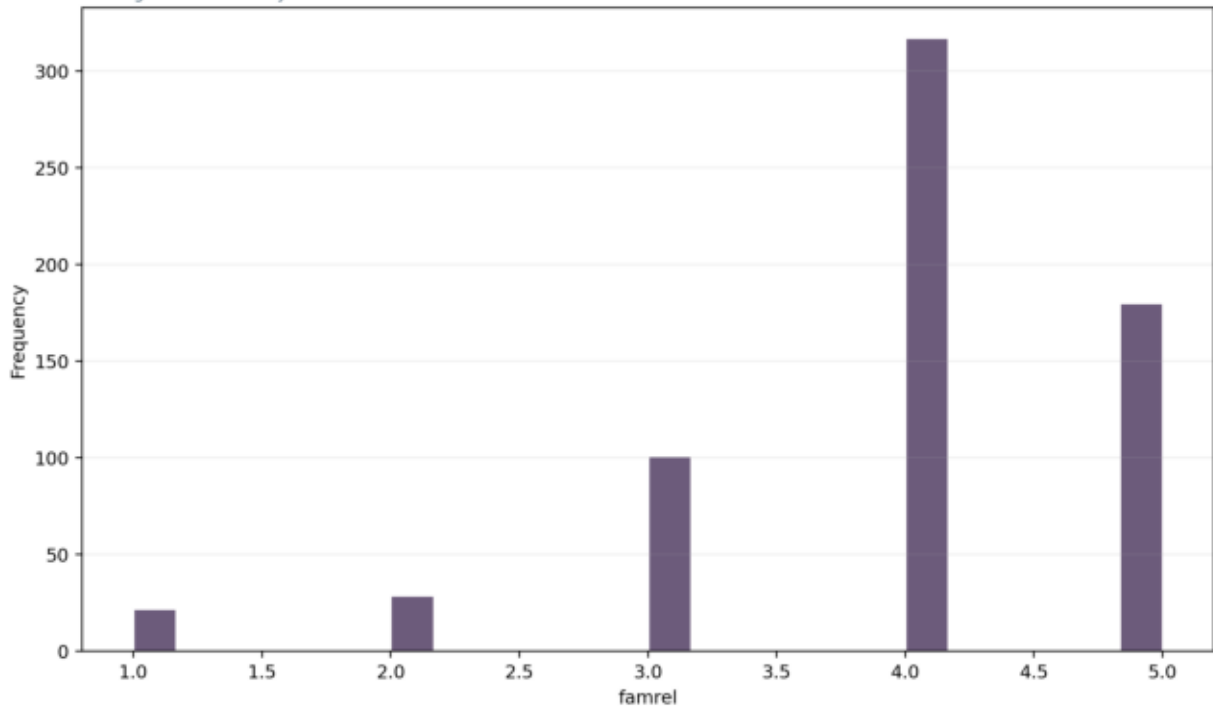
Row Missingness Distribution



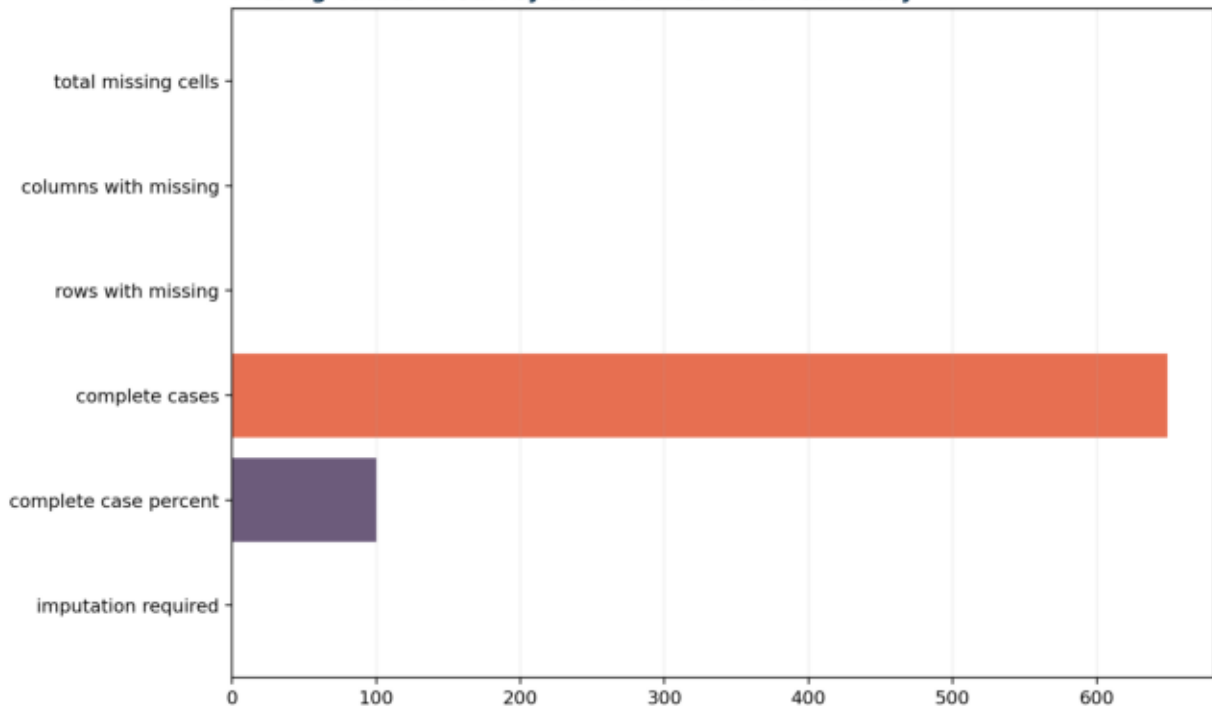
Completeness By Type



Source Famrel Distribution



Missing Values in Survey Data verified result summary



Primary Metrics

metric	value
total_missing_cells	0
columns_with_missing	0
rows_with_missing	0
complete_cases	649
complete_case_percent	100
imputation_required	False

Column Missingness

variable	missing_count	missing_percent
school	0	0
sex	0	0
age	0	0
address	0	0
famsize	0	0
Pstatus	0	0
Medu	0	0
Fedu	0	0
Mjob	0	0
Fjob	0	0
reason	0	0
guardian	0	0
traveltime	0	0
studytime	0	0
failures	0	0
schoolsup	0	0
famsup	0	0
paid	0	0
activities	0	0
nursery	0	0
higher	0	0
internet	0	0
romantic	0	0
famrel	0	0
freetime	0	0
goout	0	0

Row Missingness Distribution

missing_cells_in_row	rows
0	649

Completeness By Type

type	variables	missing_cells
numeric	16	0
categorical	17	0