

```
747 0 OUTPUT ACTIVATE MissingValuesinSurveyDataOutput.  
747 0 M> OUTPUT ACTIVATE MissingValuesinSurveyDataOutput.  
748 0 TITLE 'Missing Values in Survey Data'.  
748 0 M> TITLE 'Missing Values in Survey Data'.
```

## Missing Values in Survey Data

```
749 0
749 0 M>
750 0 GET DATA
750 0 M> GET DATA
751 0 /TYPE=TXT /FILE='D:\DATA ANALYSIS\M Survey and Likert Scale Analysis
\Missing Values in Survey Data\dataset.csv' /ENCODING=
      'UTF8' /DELCASE=LINE /DELIMITERS=', ' /QUALIFIER='''
751 0 M> /TYPE=TXT /FILE='D:\DATA ANALYSIS\M Survey and Likert Scale Analy
sis\Missing Values in Survey Data\dataset.csv' /ENCODI
      NG='UTF8' /DELCASE=LINE /DELIMITERS=', ' /QUALIFIER='''
752 0 /ARRANGEMENT=DELIMITED /FIRSTCASE=2
752 0 M> /ARRANGEMENT=DELIMITED /FIRSTCASE=2
753 0 /VARIABLES=
753 0 M> /VARIABLES=
754 0 school A8 sex A8 age F8.0 address A8 famsize A8 Pstatus A8 Medu F8.0
Fedu F8.0
754 0 M> school A8 sex A8 age F8.0 address A8 famsize A8 Pstatus A8 Medu F
8.0 Fedu F8.0
755 0 Mjob A16 Fjob A16 reason A16 guardian A16 traveltime F8.0 studytime
F8.0 failures F8.0
755 0 M> Mjob A16 Fjob A16 reason A16 guardian A16 traveltime F8.0 studyti
me F8.0 failures F8.0
756 0 schoolsup A8 famsup A8 paid A8 activities A8 nursery A8 higher A8 in
ternet A8 romantic A8
756 0 M> schoolsup A8 famsup A8 paid A8 activities A8 nursery A8 higher A8
internet A8 romantic A8
757 0 famrel F8.0 freetime F8.0 goout F8.0 Dalc F8.0 Walc F8.0 health F8.0
absences F8.0 G1 F8.0 G2 F8.0 G3 F8.0.
757 0 M> famrel F8.0 freetime F8.0 goout F8.0 Dalc F8.0 Walc F8.0 health F
8.0 absences F8.0 G1 F8.0 G2 F8.0 G3 F8.0.
758 0 DATASET NAME MissingValuesinSurveyDataData.
758 0 M> DATASET NAME MissingValuesinSurveyDataData.
759 0 COMPUTE subject_id=$CASENUM.
759 0 M> COMPUTE subject_id=$CASENUM.
760 0 COMPUTE Dalc_R=6-Dalc.
760 0 M> COMPUTE Dalc_R=6-Dalc.
761 0 COMPUTE Walc_R=6-Walc.
761 0 M> COMPUTE Walc_R=6-Walc.
```

## Missing Values in Survey Data

```
762 0 COMPUTE scale_score=MEAN.6(famrel,freetime,goout,Dalc_R,Walc_R,health
).
762 0 M> COMPUTE scale_score=MEAN.6(famrel,freetime,goout,Dalc_R,Walc_R,hea
lth).
763 0 RECODE sex ('F'=1) ('M'=2) INTO sex_code.
763 0 M> RECODE sex ('F'=1) ('M'=2) INTO sex_code.
764 0 RECODE school ('GP'=1) ('MS'=2) INTO school_code.
764 0 M> RECODE school ('GP'=1) ('MS'=2) INTO school_code.
765 0 RECODE higher internet ('no'=0) ('yes'=1) INTO higher_code internet_c
ode.
765 0 M> RECODE higher internet ('no'=0) ('yes'=1) INTO higher_code interne
t_code.
766 0 EXECUTE.
766 0 M> EXECUTE.
767 0
767 0 M>
768 0 * BEGIN METHOD-SPECIFIC SPSS WORKFLOW.
768 0 M> * BEGIN METHOD-SPECIFIC SPSS WORKFLOW.
769 0 TITLE 'Missing Values in Survey Data'.
769 0 M> TITLE 'Missing Values in Survey Data'.
```

## Missing Values in Survey Data

```
770 0 SUBTITLE 'Observed cell row and variable completeness audit'.  
770 0 M> SUBTITLE 'Observed cell row and variable completeness audit'.
```

Missing Values in Survey Data  
Observed cell row and variable completeness audit

```
771  0  COUNT string_missing=school sex address famsize Pstatus Mjob Fjob rea
son guardian schoolsup famsup paid activities nursery
      higher internet romantic ('').
771  0 M> COUNT string_missing=school sex address famsize Pstatus Mjob Fjob
reason guardian schoolsup famsup paid activities nurse
      ry higher internet romantic ('').
772  0  COUNT numeric_missing=age Medu Fedu traveltime studytime failures fam
rel freetime goout Dalc Walc health absences G1 G2 G3
      (MISSING).
772  0 M> COUNT numeric_missing=age Medu Fedu traveltime studytime failures
famrel freetime goout Dalc Walc health absences G1 G2
      G3 (MISSING).
773  0  COMPUTE row_missing=string_missing+numeric_missing.
773  0 M> COMPUTE row_missing=string_missing+numeric_missing.
774  0  FREQUENCIES VARIABLES=row_missing /STATISTICS=MEAN SUM MINIMUM MAXIMU
M /ORDER=ANALYSIS.
774  0 M> FREQUENCIES VARIABLES=row_missing /STATISTICS=MEAN SUM MINIMUM MAX
IMUM /ORDER=ANALYSIS.
```

## Frequencies

Missing Values in Survey Data  
Observed cell row and variable completeness audit

**Notes**

|                        |                                |                                                                                                |
|------------------------|--------------------------------|------------------------------------------------------------------------------------------------|
| Output Created         |                                | 18-JUL-2026 13:21:42                                                                           |
| Comments               |                                |                                                                                                |
| Input                  | Data                           | D:\DATA ANALYSIS\IM Survey and Likert Scale Analysis\Missing Values in Survey Data\dataset.csv |
|                        | Active Dataset                 | MissingValuesinSurveyDataData                                                                  |
|                        | Filter                         | <none>                                                                                         |
|                        | Weight                         | <none>                                                                                         |
|                        | Split File                     | <none>                                                                                         |
|                        | N of Rows in Working Data File | 649                                                                                            |
| Missing Value Handling | Definition of Missing          | User-defined missing values are treated as missing.                                            |
|                        | Cases Used                     | Statistics are based on all cases with valid data.                                             |
| Syntax                 |                                | FREQUENCIES<br>VARIABLES=row_missing<br>/STATISTICS=MEAN<br>SUM MINIMUM<br>MAXIMUM ...         |
| Resources              | Processor Time                 | 00:00:00.03                                                                                    |
|                        | Elapsed Time                   | 00:00:00.03                                                                                    |

[MissingValuesinSurveyDataData]

**Statistics**

row\_missing

|         |         |       |
|---------|---------|-------|
| N       | Valid   | 649   |
|         | Missing | 0     |
| Mean    |         | .0000 |
| Minimum |         | .00   |
| Maximum |         | .00   |
| Sum     |         | .00   |

Missing Values in Survey Data  
Observed cell row and variable completeness audit

**row\_missing**

|       |     | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----|-----------|---------|---------------|--------------------|
| Valid | .00 | 649       | 100.0   | 100.0         | 100.0              |

```

775  0  DESCRIPTIVES VARIABLES=age Medu Fedu traveltime studytime failures fa
mrel freetime goout Dalc Walc health absences G1 G2 G3
      /STATISTICS=MEAN STDDEV MIN MAX.
775  0 M> DESCRIPTIVES VARIABLES=age Medu Fedu traveltime studytime failures
famrel freetime goout Dalc Walc health absences G1 G2
      G3 /STATISTICS=MEAN STDDEV MIN MAX.

```

## Descriptives

**Notes**

|                        |                                |                                                                                                                                                                    |
|------------------------|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Output Created         |                                | 18-JUL-2026 13:21:42                                                                                                                                               |
| Comments               |                                |                                                                                                                                                                    |
| Input                  | Data                           | D:\DATA ANALYSIS\Survey and Likert Scale Analysis\Missing Values in Survey Data\dataset.csv                                                                        |
|                        | Active Dataset                 | MissingValuesinSurveyDataData                                                                                                                                      |
|                        | Filter                         | <none>                                                                                                                                                             |
|                        | Weight                         | <none>                                                                                                                                                             |
|                        | Split File                     | <none>                                                                                                                                                             |
|                        | N of Rows in Working Data File | 649                                                                                                                                                                |
| Missing Value Handling | Definition of Missing          | User defined missing values are treated as missing.                                                                                                                |
|                        | Cases Used                     | All non-missing data are used.                                                                                                                                     |
| Syntax                 |                                | DESCRIPTIVES<br>VARIABLES=age Medu Fedu traveltime studytime failures famrel freetime goout Dalc Walc health absences G1 G2 G3<br>/STATISTICS=MEAN STDDEV MIN MAX. |

Missing Values in Survey Data  
Observed cell row and variable completeness audit

**Notes**

|           |                |             |
|-----------|----------------|-------------|
| Resources | Processor Time | 00:00:00.02 |
|           | Elapsed Time   | 00:00:00.04 |

**Descriptive Statistics**

|                    | N   | Minimum | Maximum | Mean  | Std. Deviation |
|--------------------|-----|---------|---------|-------|----------------|
| age                | 649 | 15      | 22      | 16.74 | 1.218          |
| Medu               | 649 | 0       | 4       | 2.51  | 1.135          |
| Fedu               | 649 | 0       | 4       | 2.31  | 1.100          |
| traveltime         | 649 | 1       | 4       | 1.57  | .749           |
| studytime          | 649 | 1       | 4       | 1.93  | .830           |
| failures           | 649 | 0       | 3       | .22   | .593           |
| famrel             | 649 | 1       | 5       | 3.93  | .956           |
| freetime           | 649 | 1       | 5       | 3.18  | 1.051          |
| goout              | 649 | 1       | 5       | 3.18  | 1.176          |
| Dalc               | 649 | 1       | 5       | 1.50  | .925           |
| Walc               | 649 | 1       | 5       | 2.28  | 1.284          |
| health             | 649 | 1       | 5       | 3.54  | 1.446          |
| absences           | 649 | 0       | 32      | 3.66  | 4.641          |
| G1                 | 649 | 0       | 19      | 11.40 | 2.745          |
| G2                 | 649 | 0       | 19      | 11.57 | 2.914          |
| G3                 | 649 | 0       | 19      | 11.91 | 3.231          |
| Valid N (listwise) | 649 |         |         |       |                |

776 0 ECHO 'No missing cells were observed, so no MCAR procedure or imputation is introduced'.

776 0 M> ECHO 'No missing cells were observed, so no MCAR procedure or imputation is introduced'.

No missing cells were observed, so no MCAR procedure or imputation is introduced

777 0 \* END METHOD-SPECIFIC SPSS WORKFLOW.

777 0 M> \* END METHOD-SPECIFIC SPSS WORKFLOW.

778 0

778 0 M>

Missing Values in Survey Data  
Observed cell row and variable completeness audit

```
779 0  SAVE OUTFILE='D:\DATA ANALYSIS\M Survey and Likert Scale Analysis\Mis
Missing Values in Survey Data\SPSS_Output\sav\missing-val
      ues-in-survey-data_spss_ready_data.sav' /COMPRESSED.
779 0 M>  SAVE OUTFILE='D:\DATA ANALYSIS\M Survey and Likert Scale Analysis\
Missing Values in Survey Data\SPSS_Output\sav\missing-
      values-in-survey-data_spss_ready_data.sav' /COMPRESSED.

780 0
780 0 M>
781 0  ECHO '=====
====='.
781 0 M>  ECHO '=====
====='.
=====
782 0  ECHO 'MISSING VALUES IN SURVEY DATA'.
782 0 M>  ECHO 'MISSING VALUES IN SURVEY DATA'.
MISSING VALUES IN SURVEY DATA
783 0  ECHO 'Method type: data_quality_analysis'.
783 0 M>  ECHO 'Method type: data_quality_analysis'.
Method type: data_quality_analysis
784 0  ECHO 'Design: Observed missingness inventory at cell, row, and variab
le levels, with no artificial missing values introduce
      d.'.
784 0 M>  ECHO 'Design: Observed missingness inventory at cell, row, and var
iable levels, with no artificial missing values introd
      uced.'.
Design: Observed missingness inventory at cell, row, and variable levels, with
no artificial missing values introduced.
785 0  ECHO 'Inference scope: No missingness test is required because the su
pplied dataset contains no missing cells; MCAR testing
      and imputation are therefore not applicable.'.
785 0 M>  ECHO 'Inference scope: No missingness test is required because the
supplied dataset contains no missing cells; MCAR test
      ing and imputation are therefore not applicable.'.
Inference scope: No missingness test is required because the supplied dataset
contains no missing cells; MCAR testing and imputation
786 0  ECHO 'Formula: missing_pct_j=100*m_j/n; complete_case_i=I(row_missing
_i=0)'.
786 0 M>  ECHO 'Formula: missing_pct_j=100*m_j/n; complete_case_i=I(row_miss
ing_i=0)'.
```

Missing Values in Survey Data  
Observed cell row and variable completeness audit

```
Formula: missing_pct_j=100*m_j/n; complete_case_i=I(row_missing_i=0).
787 0 ECHO 'Variables: school, sex, age, address, famsize, Pstatus, Medu, F
edu, Mjob, Fjob, reason, guardian, traveltime, studyti
me, failures, schoolsup, famsup, paid, activities, nursery, higher
, internet, romantic, famrel, freetime, goout, Dalc, W
alc, health, absences, G1, G2, G3'.
787 0 M> ECHO 'Variables: school, sex, age, address, famsize, Pstatus, Medu
, Fedu, Mjob, Fjob, reason, guardian, traveltime, stud
ytime, failures, schoolsup, famsup, paid, activities, nursery,
higher, internet, romantic, famrel, freetime, goout, D
alc, Walc, health, absences, G1, G2, G3'.
Variables: school, sex, age, address, famsize, Pstatus, Medu, Fedu, Mjob, Fjob
, reason, guardian, traveltime, studytime, failures, s
788 0 ECHO 'Rows analyzed: 649'.
788 0 M> ECHO 'Rows analyzed: 649'.
Rows analyzed: 649
789 0 ECHO 'columns_with_missing = 0'.
789 0 M> ECHO 'columns_with_missing = 0'.
columns_with_missing = 0
790 0 ECHO 'complete_case_percent = 100.0'.
790 0 M> ECHO 'complete_case_percent = 100.0'.
complete_case_percent = 100.0
791 0 ECHO 'complete_cases = 649'.
791 0 M> ECHO 'complete_cases = 649'.
complete_cases = 649
792 0 ECHO 'imputation_required = False'.
792 0 M> ECHO 'imputation_required = False'.
imputation_required = False
793 0 ECHO 'rows_with_missing = 0'.
793 0 M> ECHO 'rows_with_missing = 0'.
rows_with_missing = 0
794 0 ECHO 'total_missing_cells = 0'.
794 0 M> ECHO 'total_missing_cells = 0'.
total_missing_cells = 0
795 0 ECHO 'Cross-check status: pass'.
795 0 M> ECHO 'Cross-check status: pass'.
Cross-check status: pass
796 0 ECHO '=====
====='.
=====
```

Missing Values in Survey Data  
Observed cell row and variable completeness audit

```
796  0 M> ECHO '=====
====='.
=====
797  0
797  0 M>
798  0 OUTPUT SAVE OUTFILE='D:\DATA ANALYSIS\M Survey and Likert Scale Analy
sis\Missing Values in Survey Data\SPSS_Output\spv\miss
      ing-values-in-survey-data_spss_output.spv'.
798  0 M> OUTPUT SAVE OUTFILE='D:\DATA ANALYSIS\M Survey and Likert Scale An
alysis\Missing Values in Survey Data\SPSS_Output\spv\m
      issing-values-in-survey-data_spss_output.spv'.
799  0 OUTPUT EXPORT /CONTENTS EXPORT=ALL LAYERS=PRINTSETTING MODELVIEWS=PRI
NTSETTING
799  0 M> OUTPUT EXPORT /CONTENTS EXPORT=ALL LAYERS=PRINTSETTING MODELVIEWS=
PRINTSETTING
```