

Frequency Distributions and Relative Frequency Distributions

Frequency Distributions and Relative Frequency Distributions

- What is frequency?
- What is *relative frequency*???
- What is a distribution?
- What is the difference between a frequency distribution and a relative frequency distribution???

What is frequency???

What is frequency???

- Frequency is
 - a count

What is frequency???

- Frequency is
 - the number of occurrences within a given time period
 - the number of occurrences, in general
 - the number of responses of a particular type
 - the count for the responses of interest

What is relative frequency???

What is relative frequency???

- Relative frequency is
 - a proportion

What is relative frequency???

- Relative frequency is
 - a proportion
 - a ratio

What is relative frequency???

- Relative frequency is
 - a proportion
 - a ratio
 - a percentage

What is relative frequency???

- Relative frequency is
 - the proportion of *occurrences* of a particular type
 - the proportion of *responses* of a particular type
 - the proportion for the *responses* of *interest*

What is relative frequency???

- Relative frequency is
 - the *ratio* of the number of occurrences of a particular type to *the total number of occurrences*
 - the *ratio* of the number of occurrences of interest to *the total number of occurrences*

What is relative frequency???

- Relative frequency is
 - the ratio n/N for n the number of occurrences of a particular type and N the total number of occurrences

What is relative frequency???

Since relative frequency is a ratio n/N for n the number of occurrences of a particular type and N the total number of occurrences

- Relative frequency can be represented as
 - a fraction

What is relative frequency???

Since relative frequency is a ratio n/N for n the number of occurrences of a particular type and N the total number of occurrences

- Relative frequency can be represented as
 - a decimal value between 0 and 1, inclusive

What is relative frequency???

Since relative frequency is a ratio n/N for n the number of occurrences of a particular type and N the total number of occurrences

- Relative frequency can be represented as
 - a percentage

How should we represent relative frequency???

- Relative frequency can be represented as
 - a fraction
 - a decimal value between 0 and 1, inclusive
 - a percentage

How should we represent relative frequency???

- Relative frequency can be represented as
 - a fraction
 - a decimal value between 0 and 1, inclusive
 - a percentage

To which will readers relate?

- The fraction???
- The decimal value????
- The percentage?????

How should we represent relative frequency???

- Relative frequency can be represented as
 - a fraction
 - a decimal value between 0 and 1, inclusive
 - a percentage

To which will readers relate?

- The fraction???
- The decimal value????
- The percentage?????

NO!!

How should we represent relative frequency???

- Relative frequency can be represented as
 - a fraction
 - a decimal value between 0 and 1, inclusive
 - a percentage

To which will readers relate?

- The fraction???
- The decimal value????
- The percentage?????

NO!!

NO!

How should we represent relative frequency???

- Relative frequency can be represented as
 - a fraction
 - a decimal value between 0 and 1, inclusive
 - a percentage

To which will readers relate?

- The fraction???
 - The decimal value????
 - The percentage?????
- NO!!**
NO!
Yes!

What is a frequency distribution?

What is a frequency distribution?

- A frequency distribution is an arrangement of values of a variable showing their observed or theoretical frequency of occurrence.

What is a frequency distribution?

- A frequency distribution is an arrangement of values of a variable showing their observed or theoretical frequency of occurrence
- A frequency distribution for a variable is a *table* providing the values of the variable and the corresponding frequency for each value of the variable.

What is a relative frequency distribution?

What is a relative frequency distribution?

- A relative frequency distribution is an arrangement of values of a variable showing their observed or theoretical relative frequency of occurrence

What is a relative frequency distribution?

- A relative frequency distribution is an arrangement of values of a variable showing their observed or theoretical relative frequency of occurrence
- A relative frequency distribution for a variable is a *table* providing the values of the variable and the corresponding relative frequency for each value of the variable.

Tabular representations of data

Frequency Distribution

- Table
 - Two columns
 - ◉ First column: the values of the variable
 - ◉ Second column: frequency for each value of the variable

Frequency Distribution - a tabular representation

- **Table**
 - **Two columns**
 - ◉ First column: the values of the variable
 - ◉ Second column: frequency for each value of the variable
- **Must have**
 - **Title**
 - **Column headings**
 - ◉ First column: the variable
 - ◉ Second column: *Frequency or Count*

Tabular representations of data

Relative Frequency Distribution

- Table
 - Two columns
 - ◉ First column: the values of the variable
 - ◉ Second column: relative frequency for each value of the variable

Relative Frequency Distribution

- a tabular representation

- **Table**
 - **Two columns**
 - ◉ First column: the values of the variable
 - ◉ Second column: relative frequency for each value of the variable
- **Must have**
 - **Title**
 - **Column headings**
 - ◉ First column: the variable
 - ◉ Second column: *Relative Frequency or Relative Frequency, in percent*

Cautions about Frequency Distributions

- Frequency table
 - Lists counts for a variable
 - Two columns *only*
 - *First column* for the variable
 - *Second column* for the frequency
 - **NO** scratch work
 - **NO** tally column!!!
 - **Must** have title
 - **Must** label columns
 - The variable
 - Frequency or Count

Cautions about Relative Frequency Distributions

- Relative Frequency table
 - Lists relative frequency, as a fraction, decimal value between 0 and 1, inclusive, or percentage, for a variable
 - Two columns only
 - First column for the variable
 - Second column for the relative frequency
 - NO scratch work
 - NO tally column!!!
 - NO frequency column!!!
 - Must have title
 - Must label columns and include units (when applicable) for relative frequency

- Reminder -

- *Percentage* is not a unit of measure.
- Note: Percentage contains the word percent.

Percentage

The units for a percentage are *percent*.