

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

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

What is a frequency distribution?

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- 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.

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- 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*.