

How do you calculate the median from a frequency table?

Authored by
stats writer

May 1, 2024

RECOMMENDED CITATION

stats writer (2024). *How do you calculate the median from a frequency table?*.

PSYCHOLOGICAL SCALES. Retrieved from <https://scales.arabpsychology.com/?p=141739>

Calculating the median from a frequency table involves finding the value that separates the upper and lower half of the data set. To do this, one must first arrange the data in ascending order and then calculate the cumulative frequency for each value. The median is then the value that falls in the middle of the cumulative frequency, or the average of the two middle values if there is an even number of data points. This method is used to find the central tendency of a data set and is a useful tool in statistics and data analysis.

Calculate Median from Frequency Table (With Examples)

You can find the median value of a frequency table by using the following steps:

Step 1: Arrange all of the individual values from smallest to largest.

Step 2: Identify the value directly in the middle of the ordered list.

If there are an odd number of values, the median is the value directly in the middle. If there are an even number of values, the median is the average of the middle two values.

The following examples show how to find the median value of a frequency table in practice.

Example 1: Median from Frequency Table (Odd Number of Values)

The following frequency table shows the total number of wins for 17 soccer teams in a certain league:

Wins	Frequency
0	2
1	3
2	4
3	1
4	2
5	3
6	2

We can use the following steps to find the median value in this frequency table:

Step 1: Arrange all of the individual values from smallest to largest.

Values: 0, 0, 1, 1, 1, 2, 2, 2, 2, 3, 4, 4, 5, 5, 5, 6, 6

Step 2: Identify the value directly in the middle of the ordered list.

Values: 0, 0, 1, 1, 1, 2, 2, 2, 2, 3, 4, 4, 5, 5, 5, 6, 6

The median value is 2.

Example 2: Median from Frequency Table (Even Number of Values)

The following frequency table shows the household size of 20 different households in a particular area:

Household Size	Frequency
1	2
2	1
3	5
4	5
5	3
6	2
7	1
8	1

Step 1: Arrange all of the individual values from smallest to largest.

Values: 1, 1, 2, 3, 3, 3, 3, 3, 4, 4, 4, 4, 4, 5, 5, 5, 6, 6, 7, 8

Step 2: Identify the value directly in the middle of the ordered list.

Values: 1, 1, 2, 3, 3, 3, 3, 3, 4, 4, 4, 4, 4, 5, 5, 5, 6, 6, 7, 8

There are two values located directly in the middle: 4 and 4.

Thus, the median value is the average of these two values: $(4 + 4) / 2 = 4$.

ARABPSYCHOLOGY.COM