

How do I calculate the mean and standard deviation in Excel?

Authored by
stats writer

April 23, 2024

RECOMMENDED CITATION

stats writer (2024). *How do I calculate the mean and standard deviation in Excel?*.

PSYCHOLOGICAL SCALES. Retrieved from <https://scales.arabpsychology.com/?p=138414>

To calculate the mean and standard deviation in Excel, first input the data set into a column or row. Then, use the "AVERAGE" function to find the mean and the "STDEV" function to find the standard deviation. Alternatively, you can use the "AVERAGEIF" and "STDEV.S" functions for more advanced calculations. These functions can be found under the "Formulas" tab in the toolbar. The mean represents the average of all the numbers in the data set, while the standard deviation measures the amount of variation or dispersion in the data. By utilizing these functions, Excel can quickly and accurately calculate these important statistical measures for any given data set.

Calculate the Mean and Standard Deviation in Excel

The represents the average value in a dataset. It gives us a good idea of where the center of a dataset is located.

The represents how spread out the values are in a dataset. It gives us an idea of how closely the observations are clustered around the mean.

Using only these two values, we can understand a great deal about the distribution of values in a dataset.

To calculate the mean of a dataset in Excel, we can use the `=AVERAGE(Range)` function where *Range* is the range of values.

To calculate the standard deviation of a dataset, we can use the `=STDEV.S(Range)` function, where *Range* is the range of values.

This tutorial explains how to use these functions in practice.

Technical Note

Both the STDEV() and STDEV.S() function calculate the *sample* standard deviation.

You can use the STDEV.P() function to calculate the *population* standard deviation if your dataset represents the entire population of values.

However, in most cases we're working with sample data rather than an entire population so we use the STDEV.S() function.

Example 1: Mean & Standard Deviation of a Single Dataset

The following screenshot shows how to calculate the mean and standard deviation of a single dataset in Excel:

	A	B	C	D	E	F
1	Dataset				Formula	
2	4		Standard Deviation	9.13	=STDEV.S(A2:A21)	
3	5		Mean	16.4	=AVERAGE(A2:A21)	
4	5					
5	6					
6	8					
7	9					
8	12					
9	12					
10	13					
11	15					
12	16					
13	17					
14	19					
15	21					
16	22					
17	24					
18	27					
19	28					
20	32					
21	33					
22						
23						
24						
25						

The mean of the dataset is 16.4 and the standard deviation is 9.13.

Example 2: Mean & Standard Deviation of Multiple Datasets

Suppose we have multiple datasets in Excel:

	A	B	C	D	E
1		Dataset 1	Dataset 2	Dataset 3	
2		4	7	1	
3		5	7	3	
4		5	8	3	
5		6	8	4	
6		8	9	6	
7		9	11	8	
8		12	12	12	
9		12	12	14	
10		13	13	16	
11		15	14	17	
12		16	14	20	
13		17	15	21	
14		19	16	24	
15		21	16	26	
16		22	17	29	
17		24	19	32	
18		27	21	35	
19		28	22	39	
20		32	22	42	
21		33	23	45	
22					
23					
24					

To calculate the mean and standard deviation of the first dataset, we can use the following two formulas:

Mean: =AVERAGE(B2:B21) Standard Deviation: =STDEV.S(B2:B21)

	A	B	C	D
1		Dataset 1	Dataset 2	Dataset 3
2		4	7	1
3		5	7	3
4		5	8	3
5		6	8	4
6		8	9	6
7		9	11	8
8		12	12	12
9		12	12	14
10		13	13	16
11		15	14	17
12		16	14	20
13		17	15	21
14		19	16	24
15		21	16	26
16		22	17	29
17		24	19	32
18		27	21	35
19		28	22	39
20		32	22	42
21		33	23	45
22	Standard Deviation	9.13		
23	Mean	16.4		
24				
25				
26				
27				

ARABPSYCHOLOGY.COM

	A	B	C	D	E
1		Dataset 1	Dataset 2	Dataset 3	
2		4	7	1	
3		5	7	3	
4		5	8	3	
5		6	8	4	
6		8	9	6	
7		9	11	8	
8		12	12	12	
9		12	12	14	
10		13	13	16	
11		15	14	17	
12		16	14	20	
13		17	15	21	
14		19	16	24	
15		21	16	26	
16		22	17	29	
17		24	19	32	
18		27	21	35	
19		28	22	39	
20		32	22	42	
21		33	23	45	
22	Standard Deviation	9.13	5.19	13.83	
23	Mean	16.4	14.3	19.85	
24					
25					
26					
27					