

Re: Median --- what good is it?

Source: <http://sci.tech--archive.net/Archive/sci.math/2005-08/msg02574.html>

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 - *Date:* Sun, 14 Aug 2005 11:43:18 +0200
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Am 14.08.05 03:56 schrieb ediebur@xxxxxxx:

> I saw "median" used yet again in the context of the number of weeks
> unemployed. What real use is the median? What does it really tell us? I
> was exposed to stats as part of an applied math major and except for
> the definition, it was never discussed in the stats courses I took (2
> or 3).
>

a) while the mean is the value m , which is optimal in the sense of minimizing quadratic deviations from m , the median is the value m , which is optimal in the sense of minimizing absolute deviations from m .

A consequence of this is that outliers are less influential in the median since quadratic deviations grow faster than absolute deviations.

b) It has conceptual consequences for our way, how to view a –for instance– sociological problem and describe a relevant central tendency.

Assume a village of 100 people having monthly income of ~\$2000 each. The mean as well as the median is ~ \$2000
Now a really rich person is moving to that village, he has \$200 000 each month.

If we describe the village in terms of the mean, then the average income has changed to $\$400\,000/101 \sim 4000\$$, but the median is still about ~\$2000.

Now it depends, for which purpose we use the central tendency. The mean of ~ \$4000 may be of interest as average money, if you count the coins, or do some banking or tax management which deals with linear functions of the money present in the village.

The median of ~\$2000 is of more interest, if we describe some social parameter, like the ability of the people of that village to share some cultural affairs, pay for education etc, which has not changed with the new powerful inhabitant (but would, if, let's say 50 people of that high income would move to that village: then 33% of the inhabitants are very powerful, and then the social

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characteristic of that village had really changed)

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• **References:**

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◇ *From: ediebur*

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