

Transcript: Live Measures of Center

So here is just how the mean the median compare.

If I have a symmetric distribution they really are basically identical. They're not going to be absolutely identical because data is data, they should be very close and by close we mean close after considering variation here right?

So this data varies in a certain way and they're going to be close to each other but for data that varies differently what's close here might not be close on a different distribution or what's not close here might be close on a different scale so how variable it is - now if they are 10.001 and 10 almost on no scale is this going to be considered a difference right? unless our scale is in thousandths or hundreds of thousandths or even millions of a millimeter or something like that - which is possible but that's not what our data shows there.

Here's a skewed right distribution this should make sense if I have some large observations they're going to pull up the mean towards them versus the median so this is a pretty big difference considering the scale of this picture. It's a measurable amount - more than half a bar in this - there's only 123 456 789 10 - 11 bars so that's like a tenth of my distribution's whole width - that's a significant amount of a difference between the mean and the median.

Sometimes hard to tell - I just give you the mean the median you're looking at them and you go - I don't know if that's a big difference or not because I don't have the picture to go on but if you have the picture.

Then skewed left, same deal the lower values are going to pull down the mean - this is less measurable on this scale but still a pretty decent chunk - maybe one twentieth of my whole picture here is represented by that difference.

There's no hard and fast rule cut off for $1/10$, $1/20$, $1/100$ of a picture you know width but the idea is it should be if you can't see it it's not important. If you can see it it's probably important enough to note at this point.