

Why the Mode Departs from the Mean—A Short Communication

Communications in Statistics-Theory and Methods

Manuscript ID: LSTA-2023-0425.R1

This brief contribution delves into the intriguing realm of the mean's potential deviation from the mode, offering fresh, straightforward, and widely applicable perspectives in descriptive and non-descriptive statistics.

The author identifies a gap in the statistical literature, highlighting the need for comprehensive coverage of the potential causes of the mean's deviation from the mode. This observation alone makes the study of considerable interest and importance.

The author's analysis, while more informal than formal, introduces three key concepts ('Repetitiveness,' 'Identity,' and 'Identity Stability'—collectively known as 'The Random-identity Paradigm'). While not explicitly defined, these concepts are crucial to the study's findings and could benefit from a more rigorous explanation.

I am afraid, and the author at some point leaves it more or less understood, that all of his considerations are related to the concept of homogeneity and heterogeneity underlying many empirical data (the idea of kurtosis already indicates this). Hence, what is pointed out in this contribution may have a lot to say about mixtures of distributions, an element of much study in statistical and applied statistics literature.

In conclusion, this brief contribution seems interesting to me, suitable for the Communications in Statistics-Theory and Methods line of publications, and should be accepted for publication.