Taylor & Francis Online

The American Statistician ›

Volume 68, 2014 - Issue 3

12,598 Views | 438 CrossRef citations to date | 92 Altmetric

History Corner

Kurtosis as Peakedness, 1905–2014. *R.I.P.*

Peter H. Westfall

Pages 191-195 | Received 01 Jan 2014, Published online: 11 Aug 2014

Cite this article https://doi.org/10.1080/00031305.2014.917055

Check for updates

Sample our Mathematics & Statistics Journals
>> Sign in here to start your access to the latest two volumes for 14 days

Full Article | Figures & data | References | Citations | Metrics

Reprints & Permissions | Read this article | Share

Abstract

The incorrect notion that kurtosis somehow measures “peakedness” (flatness, pointiness, or modality) of a distribution is remarkably persistent, despite attempts by statisticians to set the record straight. This article puts the notion to rest once and for all. Kurtosis tells you virtually nothing about the shape of the peak—its only unambiguous interpretation is in terms of tail extremity, that is, either existing outliers (for the sample kurtosis) or propensity to produce outliers (for the kurtosis of a probability distribution). To clarify this point, relevant literature is reviewed, counterexample distributions are given, and it is shown that the proportion of the kurtosis that is determined by the central $\mu \pm \sigma$ range is usually quite small.

Fourth moment | Inequality | Leptokurtic | Mesokurtic | Platykurtic.

Related research

People also read | Recommended articles | Cited by 438

Information for

Authors
R&D professionals
Editors
Librarians
Societies

Open access

Overview
Open journals
Open Select
Dove Medical Press
F1000Research

Opportunities

Reprints and e-prints
Advertising solutions
Accelerated publication
Corporate access solutions

Help and information

Help and contact
Newsroom
All journals
Books

Keep up to date

Register to receive personalised research and resources by email

Sign me up

Copyright © 2026 Informa UK Limited Privacy policy Cookies Terms & conditions Accessibility

Taylor and Francis Group

Registered in England & Wales No. 01072954
5 Howick Place | London | SW1P 1WG