

Differences in the result when calculating percentiles

Percentiles are not uniquely defined in statistics.

- **Definitions** vary: some programs take a specific rank, others use averages.
- **Interpolation** means estimating a value between two known data points – methods differ.
- Excel has **PERCENTILE.INC** (includes min & max) and **PERCENTILE.EXC** (excludes endpoints).
- R offers **nine different percentile definitions**.
- SAS, SPSS, and Python (NumPy) each follow their own standards.

For more details, consult the textbook we use and the official software documentation.

Key takeaway: Percentiles are conventions, not absolutes. Always state whether you used the textbook formula or the result from a specific software package.

Useful links:

<https://statisticsbyjim.com/basics/percentiles/>

<https://www.itl.nist.gov/div898/handbook/prc/section2/prc262.htm>

<https://axibase.com/use-cases/workshop/percentiles.html>

https://documentation.sas.com/doc/en/statug/15.1/statug_boxplot_details10.htm

<https://www.spss-tutorials.com/percentile-what-is-it/>

References

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