

# □ Kappa Value

The **Kappa value** (Cohen's Kappa) is a **statistical measure of interrater agreement** for **categorical data**, adjusted for the amount of agreement that could occur by chance.

It quantifies how consistently two or more observers classify the same items beyond random coincidence.

## □ Key Characteristics

- Ranges from **-1 to 1**:
  - **1** = Perfect agreement
  - **0** = Agreement equivalent to chance
  - **< 0** = Worse than chance (systematic disagreement)
- More robust than simple percent agreement because it accounts for **expected agreement** due to randomness.

## □ Interpretation Guide

Kappa (κ) Value	Strength of Agreement
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< 0	Poor (less than chance)
0.01 - 0.20	Slight agreement
0.21 - 0.40	Fair agreement
0.41 - 0.60	Moderate agreement
0.61 - 0.80	Substantial agreement
0.81 - 1.00	Almost perfect agreement

## □ Example

If two neuroradiologists independently evaluate MRI scans for presence of DVA and reach the same conclusion 76% of the time, but much of that agreement is expected by chance, the **Kappa** might only be **0.51**, indicating **moderate agreement**.

## □ Best Practice

- Use Kappa to **assess reliability** of diagnostic tools or observer consistency.
- Always report Kappa with **confidence intervals** and **p-values** for context.
- For ordinal scales, consider using **weighted Kappa**.

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