🌻 Reporting global and local network statistics

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Summary

This extension is about **summarising a causal map as a network** using simple statistics.

It can be useful for evaluation work because it helps you move from:

- “here is the picture” → to
- “here are a few headline properties of the picture”.

When to use it

- **Reporting**: you want a short paragraph or slide that characterises the map (dense vs sparse, highly central factors, etc.).
- **Comparing views**: you want to compare two filtered views (e.g. before/after simplification, or one group vs another) using the same set of stats.
- **Sanity checks**: you want to spot oddities (e.g. one “hub” factor connected to everything because of a label issue).

What kinds of stats are most interpretable

Global (“whole map”) summaries

- **Number of factors / links**: basic size of the current view.
- **Density / sparsity**: how connected the map is relative to how many factors it contains.
- **Share of self-loops** (if present): how much “plain coding” or A→A evidence is in view.

Local (“per factor”) summaries

- **In-degree / out-degree**: how many incoming vs outgoing links a factor has (as outcome vs as driver).
- **Centrality** (use carefully): identifies “connector” factors that sit on many paths.

How to interpret them (practical cautions)

- These are **properties of the current filtered view** (sources selection + analysis filters). Change the pipeline and the stats change.
- Network stats measure **structure**, not "truth" and not causal effect size.
- Centrality can be inflated by **label choices** (e.g. a very broad parent label used as a bucket).
- For group comparisons, it's usually better to compare **like-for-like pipelines** (same transforms, same simplification rules), otherwise the stats conflate analytic choices with group differences.

Formal notes (optional)

If you want the more formal network picture:

- Build a directed graph $G = (V, E)$ from the current links table (after bundling / transforms as appropriate).
- V are factor labels; E are directed edges (cause→effect).
- Common global stats include $|V|$, $|E|$, and density (e.g. $|E|/(|V|(|V|-1))$ if you treat it as a simple directed graph without self-loops).
- Common local stats include in-degree, out-degree, and centrality measures (betweenness, closeness, eigenvector/PageRank variants). These can be computed on the simple graph or on a weighted graph (e.g. weighting edges by source count or citation count).