Path tracing and source tracing

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Summary

Path tracing is for answering questions like:

- "**How does A lead to B** (through what intermediate steps)?"
- "What are the **main routes** from an intervention to an outcome?"
- "If we start from this driver, what downstream consequences show up **within K steps**?"

It's best thought of as:

1. a **filter** (keep only links that participate in the traced pathways), plus
2. an **interpretation rule** (what counts as evidence for a pathway).

What you get (in plain terms)

You choose:

- a **From** factor (or leave it blank)
- a **To** factor (or leave it blank)
- a maximum number of steps (how long a "chain" you want to allow)

Then the result is a *sub-map* containing only the links that sit on at least one allowed pathway.

When to use it (practitioner-friendly)

- **Explaining mechanisms**: not just "what matters", but "how it connects".
- **Finding mediators**: what sits between A and B?
- **Generating hypotheses**: "these are the plausible routes people describe", then you go back to quotes to check.

Source tracing (recommended when you care about coherent stories)

Without source tracing, a pathway can be a *composite*: one source says A→X and another says X→B, so the map can show A→…→B even if no single respondent told the full chain.

Source tracing is the stricter version: it keeps only pathways that can be realised **within at least one single source** (a coherent within-source narrative).

Use it when you want to avoid the “stitched together across respondents” problem.

Practical tips

- **Keep K small**: in interviews, chains longer than ~4 steps are uncommon and get hard to interpret.
- **Be careful with transforms**: if you change labels (Zoom, Collapse, Combine Opposites, clustering), you can change which pathways exist *as labels*. That’s often fine for presentation, but it changes what you are “counting as the same thing”.

Order matters (a conservative workflow)

If you care about coherent pathways *and* you want a cleaner, summarised map:

- first do **source tracing** (to keep within-source chains)
- then apply label-rewrite transforms (e.g. Zoom / Collapse / Combine Opposites) for presentation

Formal notes (optional)

If you want the precise definition, here it is.

Given one or more start factors S, one or more end factors T, and a maximum path length K:

- keep a link $x \to y$ iff it lies on at least one directed path of length $\leq K$ that starts in S and ends in T
- if S is empty, interpret this as “paths that end in T”
- if T is empty, interpret this as “paths that start in S”

The key is: **path tracing is link-based**. It should not “fill in” extra links between surviving factors.

Transformation and interpretation rules {.banner}### Transformation rule {.rounded}- **Input:** a links table/graph, optional `From` and `To` factors, max path length `K`, and optional source-tracing mode.

- **Transformation:** retain only links that lie on qualifying directed paths; with source tracing, keep only paths realizable within a single source.
- **Output:** a links table/map containing traced pathway links only.### Interpretation rule {.rounded}- Path tracing shows plausible reported routes under your constraints.
- With source tracing on, routes represent within-source narrative coherence rather than stitched cross-source chains.

See also

- Formatting your map for what you want to show for how this filter sits in a real workflow.
- Vignettes for using highlighted paths alongside whole-map narrative output.