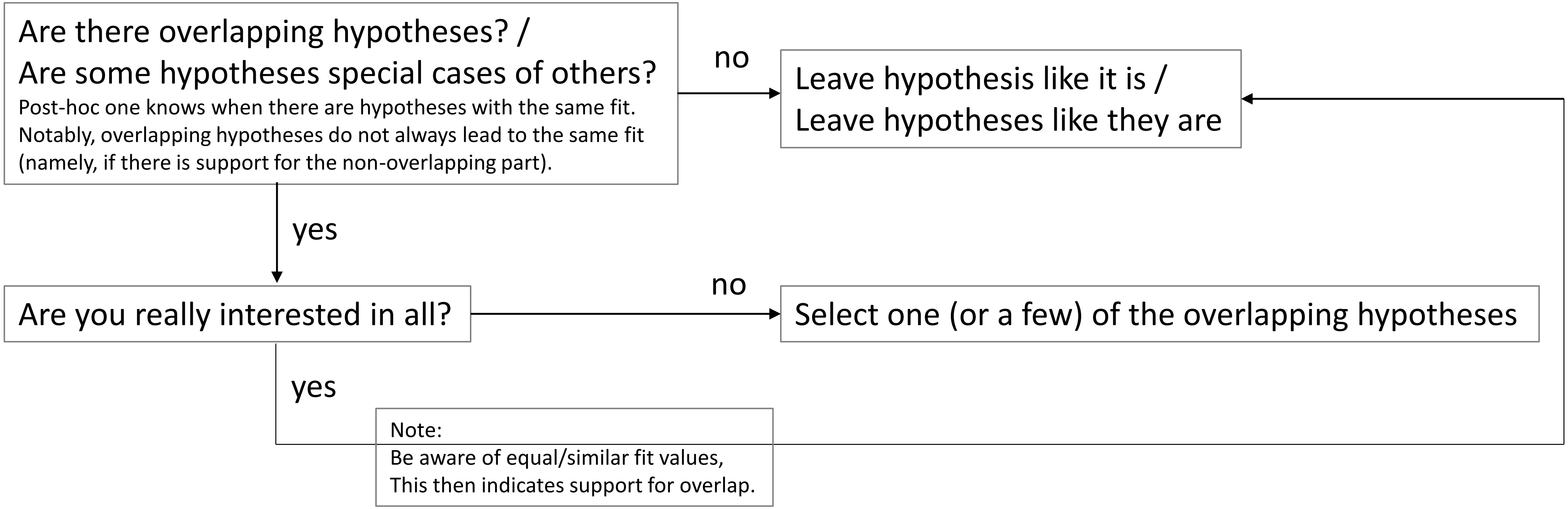
Decision trees for preliminary checks on choice of hypotheses

More details can be found in the guidelines (‘Guidelines_output_GORIC.html’), available from: https://github.com/rebeccakuiper/Tutorials/tree/main



Are there overlapping hypotheses? /
Are some hypotheses special cases of others?
Post-hoc one knows when there are hypotheses with the same fit.
Notably, overlapping hypotheses do not always lead to the same fit
(namely, if there is support for the non-overlapping part).

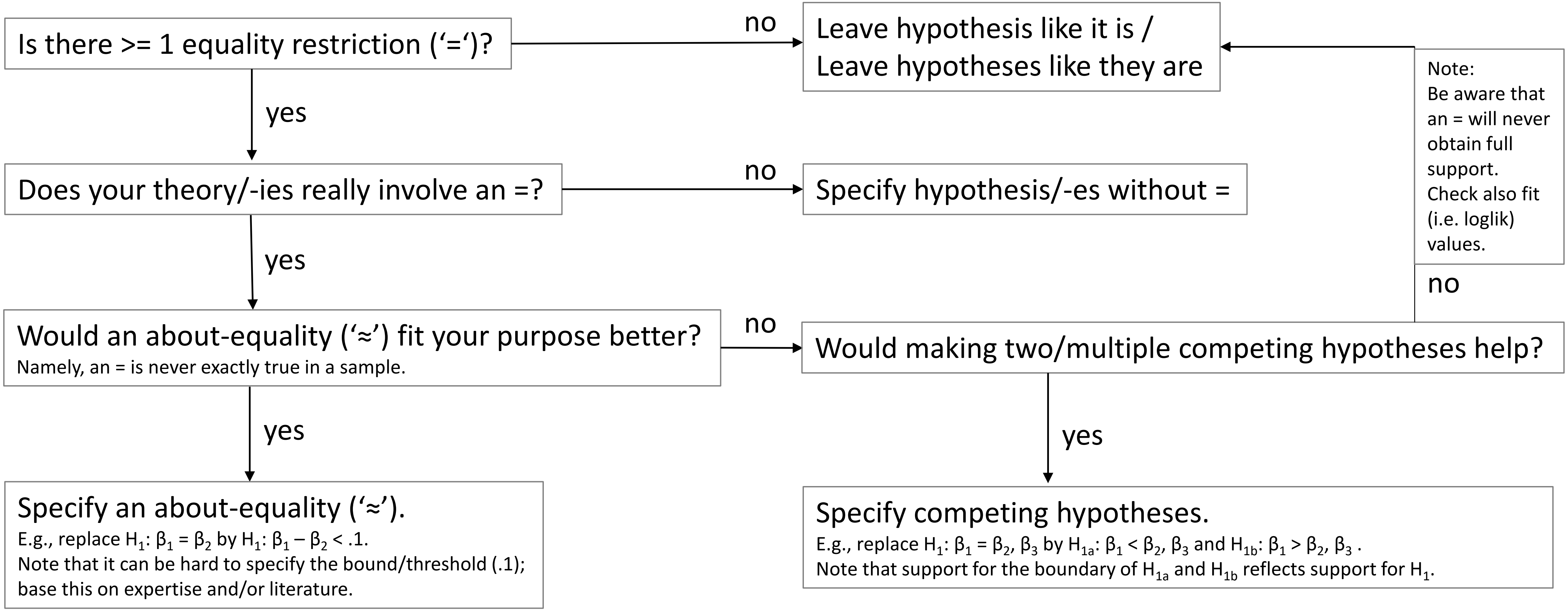
Leave hypothesis like it is /
Leave hypotheses like they are

Are you really interested in all?

Select one (or a few) of the overlapping hypotheses

Note:
Be aware of equal/similar fit values,
This then indicates support for overlap.

More details can be found in (Section 5.1 of) the guidelines (‘Guidelines_output_GORIC.html’), available from: https://github.com/rebeccakuiper/Tutorials/tree/main



Is there >= 1 equality restriction (‘=‘)?

Leave hypothesis like it is /
Leave hypotheses like they are

Does your theory/-ies really involve an =?

Specify hypothesis/-es without =

Would an about-equality (‘≈’) fit your purpose better?
Namely, an = is never exactly true in a sample.

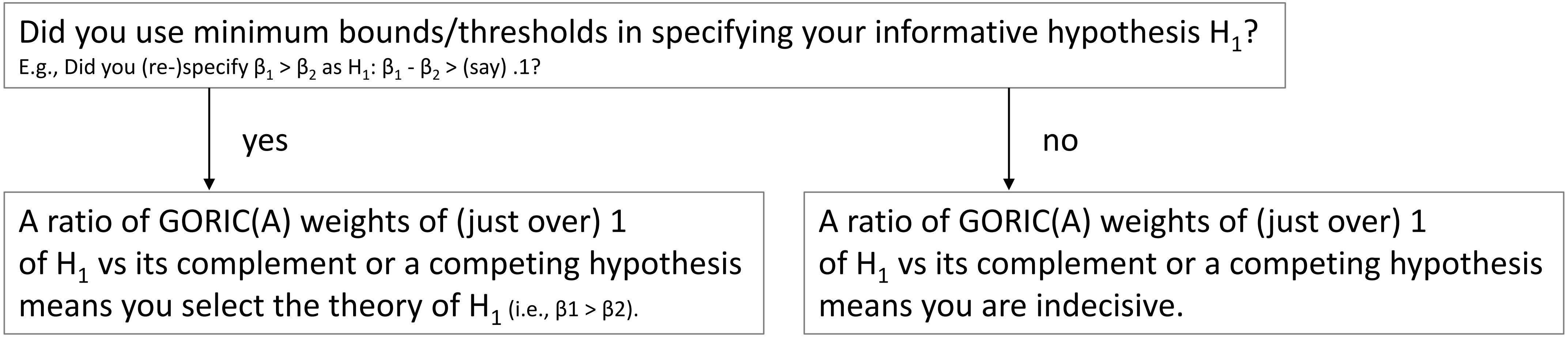
Would making two/multiple competing hypotheses help?

Note:
Be aware that an = will never obtain full support.
Check also fit (i.e. loglik) values.

Specify an about-equality (‘≈’).
E.g., replace $H_1: \beta_1 = \beta_2$ by $H_1: \beta_1 - \beta_2 < .1$.
Note that it can be hard to specify the bound/threshold (.1); base this on expertise and/or literature.

Specify competing hypotheses.
E.g., replace $H_1: \beta_1 = \beta_2, \beta_3$ by $H_{1a}: \beta_1 < \beta_2, \beta_3$ and $H_{1b}: \beta_1 > \beta_2, \beta_3$.
Note that support for the boundary of H_{1a} and H_{1b} reflects support for H_1.

More details can be found in (Section 5.2 of) the guidelines (‘Guidelines_output_GORIC.html’), available from: https://github.com/rebeccakuiper/Tutorials/tree/main



Did you use minimum bounds/thresholds in specifying your informative hypothesis H_1?

E.g., Did you (re-)specify $\beta_1 > \beta_2$ as H_1: $\beta_1 - \beta_2 >$ (say) .1?

yes

A ratio of GORIC(A) weights of (just over) 1 of H_1 vs its complement or a competing hypothesis means you select the theory of H_1 (i.e., $\beta1 > \beta2$).

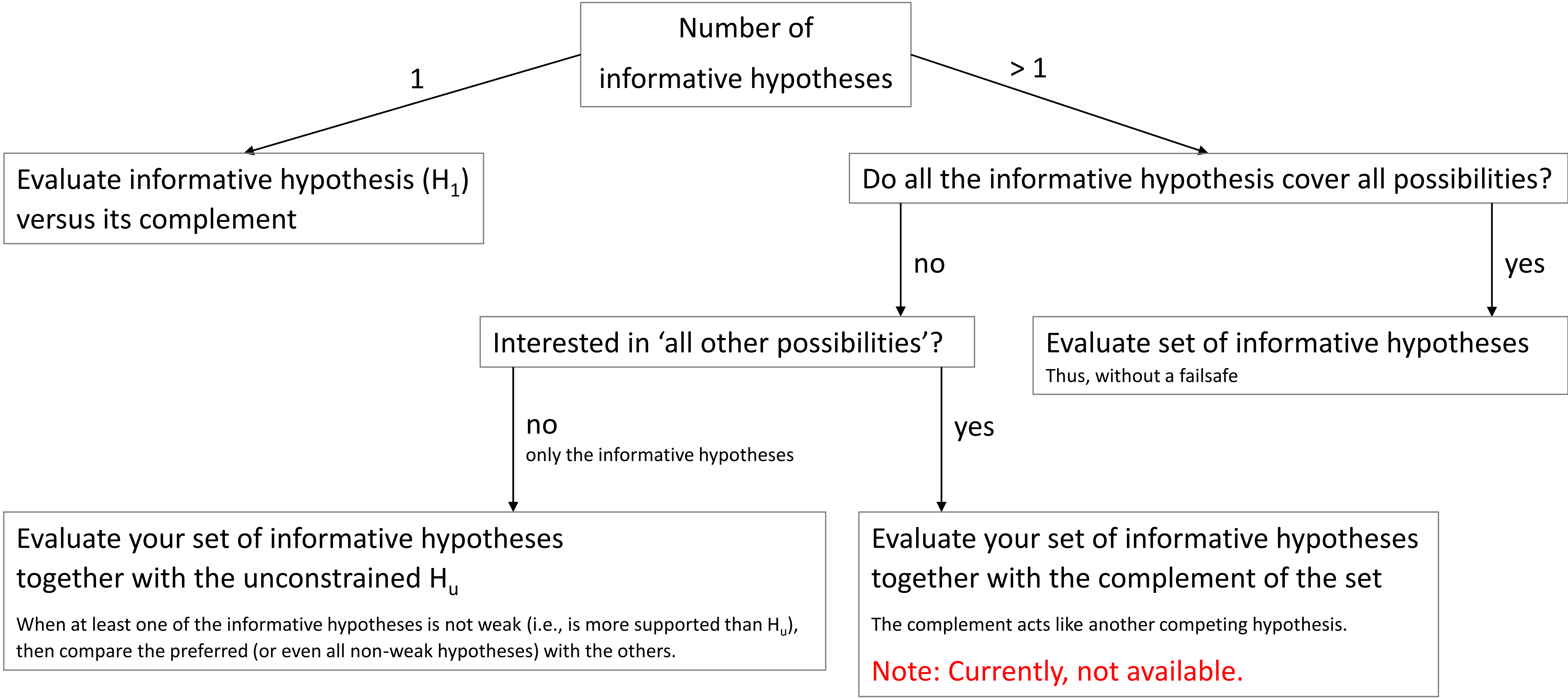
no

A ratio of GORIC(A) weights of (just over) 1 of H_1 vs its complement or a competing hypothesis means you are indecisive.

More details can be found in Section 4.4 of the guidelines (‘Guidelines_output_GORIC.html’), available from: https://github.com/rebeccakuiper/Tutorials/tree/main

Decision tree for choice failsafe

More details can be found in the guidelines (‘Guidelines_output_GORIC.html’), available from: https://github.com/rebeccakuiper/Tutorials/tree/main



Number of informative hypotheses

1

> 1

Evaluate informative hypothesis (H_1) versus its complement

Do all the informative hypothesis cover all possibilities?

no

yes

Interested in ‘all other possibilities’?

Evaluate set of informative hypotheses

Thus, without a failsafe

no

only the informative hypotheses

yes

Evaluate your set of informative hypotheses together with the unconstrained H_u

When at least one of the informative hypotheses is not weak (i.e., is more supported than H_u), then compare the preferred (or even all non-weak hypotheses) with the others.

Evaluate your set of informative hypotheses together with the complement of the set

The complement acts like another competing hypothesis.

Note: Currently, not available.

More details can be found in Section 4 of the guidelines (‘Guidelines_output_GORIC.html’), available from: https://github.com/rebeccakuiper/Tutorials/tree/main