

Decision tree for interpreting output

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

Preferred/Best hypothesis (H_H) = hypothesis with the **highest GORIC(A) weight**.

Check: Is there one or more hypotheses ($H.$) for which the ratio of loglik.weights of H_H vs $H.$ is (\approx) 1 or even < 1 ?

No, > 1

H_H has ratio loglik.weights of H_H vs all others > 1
i.e., H_H has highest fit

Yes, 1 or ≈ 1

ratio loglik.weights of H_H vs another is (\approx) 1
i.e., H_H has together with at least one other hypothesis the highest fit (or close to the highest fit)

Yes, < 1

ratio loglik.weights of H_H vs another < 1
i.e., at least one other hypothesis has the highest fit

Yes, both < 1 and (\approx) 1

at least one other hypothesis has the highest fit

&
 H_H has (approximately) the same fit as at least one other hypothesis

See Sections 5.1 and 5.3 of the guidelines.

There is support for the preferred Hypothesis H_H .

See Section 4 of the guidelines.

One can check the ratio of GORIC(A) weights of H_H with other hypotheses and check the case-specific benchmarks (Section 6).

Notes:

In case of overlapping hypotheses, this indicates support for the non-overlapping part. See Section 5.1.1.2 of the guidelines.

In case the failsafe (i.e., the complement or the unconstrained) is the best, one can take on an additional exploratory approach to create one or more new hypotheses for future research.

There is support for the preferred Hypothesis H_H , but not convincing. See Section 5.3 of the guidelines.

One can check the ratio of GORIC(A) weights of H_H with other hypotheses; but support is not convincing.

Notes:

Hypothesis H_H is preferred, but another hypothesis has the highest fit (notably, H_H has the best balance between fit and complexity).

The sample size is probably too small. Future research (with a higher sample size) can give more insight.

One could additionally use an exploratory approach to create one or more new or competing hypotheses for future research.

There is **support for the overlap** in (or boundary of) of H_H with hypotheses with the same/similar fit. See Section 5.1 of the guidelines.

Interpretating the ratio of GORIC(A) weights is not meaningful.

Note: As a basis for future research, one could specify the overlap (or (the preferred) boundary) and evaluate that against its complement.

There is **support for the overlap** in (or boundary of) of H_H with hypotheses with the same/similar fit, but **not convincing**.

Interpretating the ratio of GORIC(A) weights is not meaningful.

Note: **The sample size is probably too small.** Future research (with a higher sample size) can give more insight in whether the overlap of hypotheses indeed still seems to be the best.

Note: If H_H is true in the population and no other hypothesis contains the truth, the GORIC(A) weight will go to 1 when sample size or effect size increases. Stated otherwise, in such a case, the GORIC(A) weights reflect the uncertainty of a hypothesis being the best.